

09/786480

REC'D PCT/PTO 25 JUN 2002

## SEQUENCE LISTING

<110> Goldsbrough, Andrew  
 Colliver, Steve

<120> Isoforms of Starch Branching Enzyme II (SBE-IIA and SBE-IIB) From  
 Wheat

<130> 11951.0005.PCUS00 MSIB:005

<140> 09/786,480  
 <141> 2002-06-24

<150> PCT/GB99/03011  
 <151> 1999-09-09

<150> EP 98307337.0  
 <151> 1998-09-10

<160> 55

<170> PatentIn version 3.1

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tcattggaaa tgagtttggg catcctgaat ggatagattt tccaagaggc ccacaaactc     180
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tccactggag caatagcttt tttgactacc gtgttgggtg ttccaagcct gggaagtaca     480
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tcgactactt cacaaccgaa catccgcatg acaacaggcc gcactctttc tcggtgtaca 600  
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acaaggcaaa gagagaactc cagagagctc gtggatcgtg agcgaagcga cgggcaacgg 720  
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Gly Gly Glu Gly Tyr Leu Asn Phe Met Gly Asn Glu Phe Gly His Pro  
35 40 45  
Glu Trp Ile Asp Phe Pro Arg Gly Pro Gln Val Leu Pro Ser Gly Lys  
50 55 60  
Phe Ile Pro Gly Asn Ser Asn Ser Tyr Asp Lys Cys Arg Arg Arg Phe  
65 70 75 80  
Asp Leu Gly Asp Ala Glu Phe Leu Arg Tyr His Gly Met Gln Gln Phe  
85 90 95  
Asp Gln Ala Met Gln His Leu Glu Glu Lys Tyr Gly Phe Met Thr Ser  
100 105 110  
Asp His Gln Tyr Val Ser Arg Lys His Glu Glu Asp Lys Val Ile Val  
115 120 125  
Phe Glu Lys Gly Asp Leu Val Phe Val Phe Asn Phe His Trp Ser Asn  
130 135 140  
Ser Tyr Phe Asp Tyr Arg Val Gly Cys Leu Lys Pro Gly Lys Tyr Lys  
145 150 155 160  
Val Val Leu Asp Ser Asp Ala Gly Leu Phe Gly Gly Phe Gly Arg Ile  
165 170 175

His His Thr Ala Glu His Phe Thr Ser Asp Cys Gln His Asp Asn Arg  
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 atagacaaga caacatgatg ttgtggcgtg tgctcccaat cccagggcg ttgtgaagaa 180  
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 <223> N = any nucleotide

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 tagccataaa ccattgctag tgtcctntaa attgacagtt tagaatagng gttntacttt 360  
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 aatcgtatgg tcaatacaac cagggtgcaag gtttaataag ggtttttgct tcaacgagtc 120  
 ctggatagac aagacaacat gatgatgtgc tctgtgctcc caaattccca gggcggtgng 180  
 nggaaaacat gtcctatctgt gttatcattt tatggatcag ngnggaaacc tcccccaaat 240  
 acccatgcct ccttaaactt ttgtggtcct aaaccatggc tactatcttc taaattggca 300  
 gtttagcata gaggttttac ttttgtaaatt tttttttgac agttaataga ctctattcct 360  
 caaataattg acatgtcctt tacaagaaga tgagaaataa aatcagggat tgaagaatcc 420  
 caaaagct 428

<210> 11  
 <211> 592  
 <212> PRT  
 <213> Triticum aestivum

<400> 11

Phe	Gly	Val	Trp	Glu	Met	Phe	Leu	Pro	Asn	Asn	Ala	Asp	Gly	Ser	Pro
1				5					10				15		
Pro	Ile	Pro	His	Gly	Ser	Arg	Val	Lys	Val	Arg	Met	Asp	Thr	Pro	Ser
			20					25					30		
Gly	Ile	Lys	Asp	Ser	Ile	Pro	Ala	Trp	Ile	Lys	Tyr	Ser	Val	Gln	Thr
		35					40					45			
Pro	Gly	Asp	Ile	Pro	Tyr	Asn	Gly	Ile	Tyr	Tyr	Asp	Pro	Pro	Glu	Glu
	50					55					60				
Glu	Lys	Tyr	Val	Phe	Lys	His	Pro	Gln	Pro	Lys	Arg	Pro	Lys	Ser	Leu
65					70					75				80	
Arg	Ile	Tyr	Glu	Thr	His	Val	Gly	Met	Ser	Ser	Pro	Glu	Pro	Lys	Ile
				85					90					95	

Asn	Thr	Tyr	Ala	Asn	Phe	Arg	Asp	Glu	Val	Leu	Pro	Arg	Ile	Lys	Arg		
			100					105					110				
Leu	Gly	Tyr	Asn	Ala	Val	Gln	Ile	Met	Ala	Ile	Gln	Glu	His	Ser	Tyr		
		115					120					125					
Tyr	Gly	Ser	Phe	Gly	Tyr	His	Val	Thr	Asn	Phe	Phe	Ala	Pro	Ser	Ser		
	130					135					140						
Arg	Phe	Gly	Ser	Pro	Glu	Asp	Leu	Lys	Ser	Leu	Ile	Asp	Arg	Ala	His		
145					150					155					160		
Glu	Leu	Gly	Leu	Val	Val	Leu	Met	Asp	Val	Val	His	Ser	His	Ala	Ser		
			165						170					175			
Asn	Asn	Thr	Leu	Asp	Gly	Leu	Asn	Gly	Phe	Asp	Gly	Thr	Asp	Thr	His		
		180						185					190				
Tyr	Phe	His	Gly	Gly	Ser	Arg	Gly	His	His	Trp	Met	Trp	Asp	Ser	Arg		
	195						200					205					
Val	Phe	Asn	Tyr	Gly	Asn	Lys	Glu	Val	Ile	Arg	Phe	Leu	Leu	Ser	Asn		
	210					215					220						
Ala	Arg	Trp	Trp	Leu	Glu	Glu	Tyr	Lys	Phe	Asp	Gly	Phe	Arg	Phe	Asp		
225					230					235					240		
Gly	Ala	Thr	Ser	Met	Met	Tyr	Thr	His	His	Gly	Leu	Gln	Val	Thr	Phe		
				245					250					255			
Thr	Gly	Ser	Tyr	His	Glu	Tyr	Phe	Gly	Phe	Ala	Thr	Asp	Val	Asp	Ala		
		260						265					270				
Val	Val	Tyr	Leu	Met	Leu	Met	Asn	Asp	Leu	Ile	His	Gly	Phe	Tyr	Pro		
		275					280					285					
Glu	Ala	Val	Thr	Ile	Gly	Glu	Asp	Val	Ser	Gly	Met	Pro	Thr	Phe	Ala		
	290					295					300						
Leu	Pro	Val	Gln	Val	Gly	Gly	Val	Gly	Phe	Asp	Tyr	Arg	Leu	His	Met		
305					310					315					320		
Ala	Val	Ala	Asp	Lys	Trp	Ile	Glu	Leu	Leu	Lys	Gly	Asn	Asp	Glu	Ala		
				325					330					335			
Trp	Glu	Met	Gly	Asn	Ile	Val	His	Thr	Leu	Thr	Asn	Arg	Arg	Trp	Pro		
		340						345					350				
Glu	Lys	Cys	Val	Thr	Tyr	Ala	Glu	Ser	His	Asp	Gln	Ala	Leu	Val	Gly		
	355						360					365					
Asp	Lys	Thr	Ile	Ala	Phe	Trp	Leu	Met	Asp	Lys	Asp	Met	Tyr	Asp	Phe		
	370					375					380						
Met	Ala	Leu	Asn	Gly	Pro	Ser	Thr	Pro	Ser	Ile	Asp	Arg	Gly	Ile	Ala		
385					390					395					400		

Leu His Lys Met Ile Arg Leu Ile Thr Met Gly Leu Gly Gly Glu Gly  
 405 410 415

Tyr Leu Asn Phe Met Gly Asn Glu Phe Gly His Pro Glu Trp Ile Asp  
 420 425 430

Phe Pro Arg Gly Pro Gln Val Leu Pro Thr Gly Lys Phe Ile Pro Gly  
 435 440 445

Asn Asn Asn Ser Tyr Asp Lys Cys Arg Arg Arg Phe Asp Gln Gly Asp  
 450 455 460

Ala Glu Phe Leu Arg Tyr His Gly Met Gln Gln Phe Asp Gln Ala Met  
 465 470 475 480

Gln His Leu Glu Glu Lys Tyr Gly Phe Met Thr Ser Asp His Gln Tyr  
 485 490 495

Val Ser Arg Lys His Glu Glu Asp Lys Val Ile Val Phe Glu Lys Gly  
 500 505 510

Asp Leu Val Phe Val Phe Asn Phe His Trp Ser Asn Ser Tyr Phe Asp  
 515 520 525

Tyr Arg Val Gly Cys Leu Lys Pro Gly Lys Tyr Lys Val Val Leu Asp  
 530 535 540

Ser Asp Ala Gly Leu Phe Gly Gly Phe Gly Arg Ile His His Thr Ala  
 545 550 555 560

Glu His Phe Thr Ser Asp Cys Gln His Asp Asn Arg Pro His Ser Phe  
 565 570 575

Ser Val Tyr Thr Pro Ser Arg Thr Cys Val Val Tyr Ala Pro Met Asn  
 580 585 590

<210> 12

<211> 771

<212> PRT

<213> Triticum aestivum

<400> 12

Ser Arg Ala Ala Ser Pro Gly Lys Val Leu Val Pro Asp Gly Glu Ser  
 1 5 10 15

Asp Asp Leu Ala Ser Pro Ala Gln Pro Glu Glu Leu Gln Ile Pro Glu  
 20 25 30

Asp Ile Glu Glu Gln Thr Ala Glu Val Asn Met Thr Gly Gly Thr Ala  
 35 40 45

Glu Lys Leu Glu Ser Ser Glu Pro Thr Gln Gly Ile Val Glu Thr Ile  
 50 55 60

Thr Asp Gly Val Thr Lys Gly Val Lys Glu Leu Val Val Gly Glu Lys  
 65 70 75 80

Pro Arg Val Val Pro Lys Pro Gly Asp Gly Gln Lys Ile Tyr Glu Ile  
 85 90 95  
 Asp Pro Thr Leu Lys Asp Phe Arg Ser His Leu Asp Tyr Arg Tyr Ser  
 100 105 110  
 Glu Tyr Arg Arg Ile Arg Ala Ala Ile Asp Gln His Glu Gly Gly Leu  
 115 120 125  
 Glu Ala Phe Ser Arg Gly Tyr Glu Lys Leu Gly Phe Thr Arg Ser Ala  
 130 135 140  
 Glu Gly Ile Thr Tyr Arg Glu Trp Ala Pro Gly Ala His Ser Ala Ala  
 145 150 155 160  
 Leu Val Gly Asp Phe Asn Asn Trp Asn Pro Asn Ala Asp Thr Met Thr  
 165 170 175  
 Arg Asp Asp Tyr Gly Val Trp Glu Ile Phe Leu Pro Asn Asn Ala Asp  
 180 185 190  
 Gly Ser Pro Ala Ile Pro His Gly Ser Arg Val Lys Ile Arg Met Asp  
 195 200 205  
 Thr Pro Ser Gly Val Lys Asp Ser Ile Ser Ala Trp Ile Lys Phe Ser  
 210 215 220  
 Val Gln Ala Pro Gly Glu Ile Pro Phe Asn Gly Ile Tyr Tyr Asp Pro  
 225 230 235 240  
 Pro Glu Glu Glu Lys Tyr Val Phe Gln His Pro Gln Pro Lys Arg Pro  
 245 250 255  
 Glu Ser Leu Arg Ile Tyr Glu Ser His Ile Gly Met Ser Ser Pro Glu  
 260 265 270  
 Pro Lys Ile Asn Ser Tyr Ala Asn Phe Arg Asp Glu Val Leu Pro Arg  
 275 280 285  
 Ile Lys Arg Leu Gly Tyr Asn Ala Val Gln Ile Met Ala Ile Gln Glu  
 290 295 300  
 His Ser Tyr Tyr Ala Ser Phe Gly Tyr His Val Thr Asn Phe Phe Ala  
 305 310 315 320  
 Pro Ser Ser Arg Phe Gly Thr Pro Glu Asp Leu Lys Ser Leu Ile Asp  
 325 330 335  
 Arg Ala His Glu Leu Gly Leu Ile Val Leu Met Asp Ile Val His Ser  
 340 345 350  
 His Ser Ser Asn Asn Thr Leu Asp Gly Leu Asn Gly Phe Asp Gly Thr  
 355 360 365  
 Asp Thr His Tyr Phe His Gly Gly Pro Arg Gly His His Trp Met Trp  
 370 375 380

Asp Ser Arg Leu Phe Asn Tyr Gly Ser Trp Glu Val Leu Arg Phe Leu  
 385 390 395 400  
 Leu Ser Asn Ala Arg Trp Trp Leu Glu Glu Tyr Lys Phe Asp Gly Phe  
 405 410 415  
 Arg Phe Asp Gly Val Thr Ser Met Met Tyr Thr His His Gly Leu Gln  
 420 425 430  
 Met Thr Phe Thr Gly Asn Tyr Gly Glu Tyr Phe Gly Phe Ala Thr Asp  
 435 440 445  
 Val Asp Ala Val Val Tyr Leu Met Leu Val Asn Asp Leu Ile His Gly  
 450 455 460  
 Leu His Pro Asp Ala Val Ser Ile Gly Glu Asp Val Ser Gly Met Pro  
 465 470 475 480  
 Thr Phe Cys Ile Pro Val Pro Asp Gly Gly Val Gly Leu Asp Tyr Arg  
 485 490 495  
 Leu His Met Ala Val Ala Asp Lys Trp Ile Glu Leu Leu Lys Gln Ser  
 500 505 510  
 Asp Glu Ser Trp Lys Met Gly Asp Ile Val His Thr Leu Thr Asn Arg  
 515 520 525  
 Arg Trp Leu Glu Lys Cys Val Thr Tyr Ala Glu Ser His Asp Gln Ala  
 530 535 540  
 Leu Val Gly Asp Lys Thr Ile Ala Phe Trp Leu Met Asp Lys Asp Met  
 545 550 555 560  
 Tyr Asp Phe Met Ala Leu Asp Arg Pro Ser Thr Pro Arg Ile Asp Arg  
 565 570 575  
 Gly Ile Ala Leu His Lys Met Ile Arg Leu Val Thr Met Gly Leu Gly  
 580 585 590  
 Gly Glu Gly Tyr Leu Asn Phe Met Gly Asn Glu Phe Gly His Pro Glu  
 595 600 605  
 Trp Ile Asp Phe Pro Arg Gly Pro Gln Thr Leu Pro Thr Gly Lys Val  
 610 615 620  
 Leu Pro Gly Asn Asn Asn Ser Tyr Asp Lys Cys Arg Arg Arg Phe Asp  
 625 630 635 640  
 Leu Gly Asp Ala Asp Phe Leu Arg Tyr His Gly Met Gln Glu Phe Asp  
 645 650 655  
 Gln Ala Met Gln His Leu Glu Glu Lys Tyr Gly Phe Met Thr Ser Glu  
 660 665 670  
 His Gln Tyr Val Ser Arg Lys His Glu Glu Asp Lys Val Ile Ile Phe  
 675 680 685

Glu Arg Gly Asp Leu Val Phe Val Phe Asn Phe His Trp Ser Asn Ser  
690 695 700

Phe Phe Asp Tyr Arg Val Gly Cys Ser Arg Pro Gly Lys Tyr Lys Val  
705 710 715 720

Ala Leu Asp Ser Asp Asp Ala Leu Phe Gly Gly Phe Ser Arg Leu Asp  
725 730 735

His Asp Val Asp Tyr Phe Thr Thr Glu His Pro His Asp Asn Arg Pro  
740 745 750

Arg Ser Phe Ser Val Tyr Thr Pro Ser Arg Thr Ala Val Val Tyr Ala  
755 760 765

Leu Thr Glu  
770

<210> 13  
<211> 797  
<212> PRT  
<213> Zea mays

<400> 13

Ser Cys Ala Gly Ala Pro Gly Lys Val Leu Val Pro Gly Gly Gly Ser  
1 5 10 15

Asp Asp Leu Leu Ser Ser Ala Glu Pro Val Val Asp Thr Gln Pro Glu  
20 25 30

Glu Leu Gln Ile Pro Glu Ala Glu Leu Thr Val Glu Lys Thr Ser Ser  
35 40 45

Ser Pro Thr Gln Thr Thr Ser Ala Val Ala Glu Ala Ser Ser Gly Val  
50 55 60

Glu Ala Glu Glu Arg Pro Glu Leu Ser Ser Glu Val Ile Gly Val Gly  
65 70 75 80

Gly Thr Gly Gly Thr Lys Ile Asp Gly Ala Gly Ile Lys Ala Lys Ala  
85 90 95

Pro Leu Val Glu Glu Lys Pro Arg Val Ile Pro Pro Pro Gly Asp Gly  
100 105 110

Gln Arg Ile Tyr Glu Ile Asp Pro Met Leu Glu Gly Phe Arg Gly His  
115 120 125

Leu Asp Tyr Arg Tyr Ser Glu Tyr Lys Arg Leu Arg Ala Ala Ile Asp  
130 135 140

Gln His Glu Gly Gly Leu Asp Ala Phe Ser Arg Gly Tyr Glu Lys Leu  
145 150 155 160



Gly	Phe	Thr	Arg	Ser	Ala	Glu	Gly	Ile	Thr	Tyr	Arg	Glu	Trp	Ala	Pro	165	170	175
Gly	Ala	Tyr	Ser	Ala	Ala	Leu	Val	Gly	Asp	Phe	Asn	Asn	Trp	Asn	Pro	180	185	190
Asn	Ala	Asp	Ala	Met	Ala	Arg	Asn	Glu	Tyr	Gly	Val	Trp	Glu	Ile	Phe	195	200	205
Leu	Pro	Asn	Asn	Ala	Asp	Gly	Ser	Pro	Ala	Ile	Pro	His	Gly	Ser	Arg	210	215	220
Val	Lys	Ile	Arg	Met	Asp	Thr	Pro	Ser	Gly	Val	Lys	Asp	Ser	Ile	Pro	225	230	235
Ala	Trp	Ile	Lys	Phe	Ser	Val	Gln	Ala	Pro	Gly	Glu	Ile	Pro	Tyr	Asn	245	250	255
Gly	Ile	Tyr	Tyr	Asp	Pro	Pro	Glu	Glu	Glu	Lys	Tyr	Val	Phe	Lys	His	260	265	270
Pro	Gln	Pro	Lys	Arg	Pro	Lys	Ser	Leu	Arg	Ile	Tyr	Glu	Ser	His	Val	275	280	285
Gly	Met	Ser	Ser	Pro	Glu	Pro	Lys	Ile	Asn	Thr	Tyr	Ala	Asn	Phe	Arg	290	295	300
Asp	Glu	Val	Leu	Pro	Arg	Ile	Lys	Lys	Leu	Gly	Tyr	Asn	Ala	Val	Gln	305	310	315
Ile	Met	Ala	Ile	Gln	Glu	His	Ser	Tyr	Tyr	Ala	Ser	Phe	Gly	Tyr	His	325	330	335
Val	Thr	Asn	Phe	Phe	Ala	Pro	Ser	Ser	Arg	Phe	Gly	Thr	Pro	Glu	Asp	340	345	350
Leu	Lys	Ser	Leu	Ile	Asp	Lys	Ala	His	Glu	Leu	Gly	Leu	Leu	Val	Leu	355	360	365
Met	Asp	Ile	Val	His	Ser	His	Ser	Ser	Asn	Asn	Thr	Leu	Asp	Gly	Leu	370	375	380
Asn	Gly	Phe	Asp	Gly	Thr	Asp	Thr	His	Tyr	Phe	His	Gly	Gly	Pro	Arg	385	390	395
Gly	His	His	Trp	Met	Trp	Asp	Ser	Arg	Leu	Phe	Asn	Tyr	Gly	Ser	Trp	405	410	415
Glu	Val	Leu	Arg	Phe	Leu	Leu	Ser	Asn	Ala	Arg	Trp	Trp	Leu	Glu	Glu	420	425	430
Tyr	Lys	Phe	Asp	Gly	Phe	Arg	Phe	Asp	Gly	Val	Thr	Ser	Met	Met	Tyr	435	440	445
Thr	His	His	Gly	Leu	Gln	Val	Thr	Phe	Thr	Gly	Asn	Tyr	Gly	Glu	Tyr	450	455	460

Phe Gly Phe Ala Thr Asp Val Asp Ala Val Val Tyr Leu Met Leu Val  
 465 470 475 480  
 Asn Asp Leu Ile Arg Gly Leu Tyr Pro Glu Ala Val Ser Ile Gly Glu  
 485 490 495  
 Asp Val Ser Gly Met Pro Thr Phe Cys Ile Pro Val Gln Asp Gly Gly  
 500 505 510  
 Val Gly Phe Asp Tyr Arg Leu His Met Ala Val Pro Asp Lys Trp Ile  
 515 520 525  
 Glu Leu Leu Lys Gln Ser Asp Glu Tyr Trp Glu Met Gly Asp Ile Val  
 530 535 540  
 His Thr Leu Thr Asn Arg Arg Trp Leu Glu Lys Cys Val Thr Tyr Cys  
 545 550 555 560  
 Glu Ser His Asp Gln Ala Leu Val Gly Asp Lys Thr Ile Ala Phe Trp  
 565 570 575  
 Leu Met Asp Lys Asp Met Tyr Asp Phe Met Ala Leu Asp Arg Pro Ser  
 580 585 590  
 Thr Pro Arg Ile Asp Arg Gly Ile Ala Leu His Lys Met Ile Arg Leu  
 595 600 605  
 Val Thr Met Gly Leu Gly Gly Glu Gly Tyr Leu Asn Phe Met Gly Asn  
 610 615 620  
 Glu Phe Gly His Pro Glu Trp Ile Asp Phe Pro Arg Gly Pro Gln Ser  
 625 630 635 640  
 Leu Pro Asn Gly Ser Val Ile Pro Gly Asn Asn Asn Ser Phe Asp Lys  
 645 650 655  
 Cys Arg Arg Arg Phe Asp Leu Gly Asp Ala Asp Tyr Leu Arg Tyr Arg  
 660 665 670  
 Gly Met Gln Glu Phe Asp Gln Ala Met Gln His Leu Glu Gly Lys Tyr  
 675 680 685  
 Glu Phe Met Thr Ser Asp His Ser Tyr Val Ser Arg Lys His Glu Glu  
 690 695 700  
 Asp Lys Val Ile Ile Phe Glu Arg Gly Asp Leu Val Phe Val Phe Asn  
 705 710 715 720  
 Phe His Trp Ser Asn Ser Tyr Phe Asp Tyr Arg Val Gly Cys Phe Lys  
 725 730 735  
 Pro Gly Lys Tyr Lys Ile Val Leu Asp Ser Asp Asp Gly Leu Phe Gly  
 740 745 750  
 Gly Phe Ser Arg Leu Asp His Asp Ala Glu Tyr Phe Thr Ala Asp Trp  
 755 760 765

Pro His Asp Asn Arg Pro Cys Ser Phe Ser Val Tyr Ala Pro Ser Arg  
 770 775 780

Thr Ala Val Val Tyr Ala Pro Ala Gly Ala Glu Asp Glu  
 785 790 795

<210> 14  
 <211> 747  
 <212> PRT  
 <213> Zea mays

<400> 14

Ala Ala Ala Ala Ala Arg Lys Ala Val Met Val Pro Glu Gly Glu Asn  
 1 5 10 15

Asp Gly Leu Ala Ser Arg Ala Asp Ser Ala Gln Phe Gln Ser Asp Glu  
 20 25 30

Leu Glu Val Pro Asp Ile Ser Glu Glu Thr Thr Cys Gly Ala Gly Val  
 35 40 45

Ala Asp Ala Gln Ala Leu Asn Arg Val Arg Val Val Pro Pro Pro Ser  
 50 55 60

Asp Gly Gln Lys Ile Phe Gln Ile Asp Pro Met Leu Gln Gly Tyr Lys  
 65 70 75 80

Tyr His Leu Glu Tyr Arg Tyr Ser Leu Tyr Arg Arg Ile Arg Ser Asp  
 85 90 95

Ile Asp Glu His Glu Gly Gly Leu Glu Ala Phe Ser Arg Ser Tyr Glu  
 100 105 110

Lys Phe Gly Phe Asn Ala Ser Ala Glu Gly Ile Thr Tyr Arg Glu Trp  
 115 120 125

Ala Pro Gly Ala Phe Ser Ala Ala Leu Val Gly Asp Val Asn Asn Trp  
 130 135 140

Asp Pro Asn Ala Asp Arg Met Ser Lys Asn Glu Phe Gly Val Trp Glu  
 145 150 155 160

Ile Phe Leu Pro Asn Asn Ala Asp Gly Thr Ser Pro Ile Pro His Gly  
 165 170 175

Ser Arg Val Lys Val Arg Met Asp Thr Pro Ser Gly Ile Lys Asp Ser  
 180 185 190

Ile Pro Ala Trp Ile Lys Tyr Ser Val Gln Ala Pro Gly Glu Ile Pro  
 195 200 205

Tyr Asp Gly Ile Tyr Tyr Asp Pro Pro Glu Glu Val Lys Tyr Val Phe  
 210 215 220

Arg His Ala Gln Pro Lys Arg Pro Lys Ser Leu Arg Ile Tyr Glu Thr

225	230	235	240
His Val Gly Met	Ser Ser Pro Glu	Pro Lys Ile Asn Thr Tyr	Val Asn
	245	250	255
Phe Arg Asp Glu	Val Leu Pro Arg	Ile Lys Lys Leu Gly Tyr	Asn Ala
	260	265	270
Val Gln Ile Met	Ala Ile Gln Glu	His Ser Tyr Tyr Gly	Ser Phe Gly
	275	280	285
Tyr His Val Thr	Asn Phe Phe Ala	Pro Ser Ser Arg	Phe Gly Thr Pro
	290	295	300
Glu Asp Leu Lys	Ser Leu Ile Asp	Arg Ala His Glu	Leu Gly Leu Leu
305	310	315	320
Val Leu Met Asp	Val Val His Ser	His Ala Ser Ser	Asn Thr Leu Asp
	325	330	335
Gly Leu Asn Gly	Phe Asp Gly Thr	Asp Thr His Tyr	Phe His Ser Gly
	340	345	350
Pro Arg Gly His	His Trp Met Trp	Asp Ser Arg Leu	Phe Asn Tyr Gly
	355	360	365
Asn Trp Glu Val	Leu Arg Phe Leu	Leu Ser Asn Ala	Arg Trp Trp Leu
	370	375	380
Glu Glu Tyr Lys	Phe Asp Gly Phe	Arg Phe Asp Gly	Val Thr Ser Met
385	390	395	400
Met Tyr Thr His	His Gly Leu Gln	Val Thr Phe Thr	Gly Asn Phe Asn
	405	410	415
Glu Tyr Phe Gly	Phe Ala Thr Asp	Val Asp Ala Val	Val Tyr Leu Met
	420	425	430
Leu Val Asn Asp	Leu Ile His Gly	Leu Tyr Pro Glu	Ala Val Thr Ile
	435	440	445
Gly Glu Asp Val	Ser Gly Met Pro	Thr Phe Ala Leu	Pro Val His Asp
	450	455	460
Gly Gly Val Gly	Phe Asp Tyr Arg	Met His Met Ala	Val Ala Asp Lys
465	470	475	480
Trp Ile Asp Leu	Leu Lys Gln Ser	Asp Glu Thr Trp	Lys Met Gly Asp
	485	490	495
Ile Val His Thr	Leu Thr Asn Arg	Arg Trp Leu Glu	Lys Cys Val Thr
	500	505	510
Tyr Ala Glu Ser	His Asp Gln Ala	Leu Val Gly Asp	Lys Thr Ile Ala
	515	520	525
Phe Trp Leu Met	Asp Lys Asp Met	Tyr Asp Phe Met	Ala Leu Asp Arg

530					535					540					
Pro	Ser	Thr	Pro	Thr	Ile	Asp	Arg	Gly	Ile	Ala	Leu	His	Lys	Met	Ile
545					550					555					560
Arg	Leu	Ile	Thr	Met	Gly	Leu	Gly	Gly	Glu	Gly	Tyr	Leu	Asn	Phe	Met
				565					570					575	
Gly	Asn	Glu	Phe	Gly	His	Pro	Glu	Trp	Ile	Asp	Phe	Pro	Arg	Gly	Pro
			580					585					590		
Gln	Arg	Leu	Pro	Ser	Gly	Lys	Phe	Ile	Pro	Gly	Asn	Asn	Asn	Ser	Tyr
		595					600					605			
Asp	Lys	Cys	Arg	Arg	Arg	Phe	Asp	Leu	Gly	Asp	Ala	Asp	Tyr	Leu	Arg
	610					615					620				
Tyr	His	Gly	Met	Gln	Glu	Phe	Asp	Gln	Ala	Met	Gln	His	Leu	Glu	Gln
625					630					635					640
Lys	Tyr	Glu	Phe	Met	Thr	Ser	Asp	His	Gln	Tyr	Ile	Ser	Arg	Lys	His
				645					650					655	
Glu	Glu	Asp	Lys	Val	Ile	Val	Phe	Glu	Lys	Gly	Asp	Leu	Val	Phe	Val
			660					665					670		
Phe	Asn	Phe	His	Cys	Asn	Asn	Ser	Tyr	Phe	Asp	Tyr	Arg	Ile	Gly	Cys
		675					680					685			
Arg	Lys	Pro	Gly	Val	Tyr	Lys	Val	Val	Leu	Asp	Ser	Asp	Ala	Gly	Leu
	690					695					700				
Phe	Gly	Gly	Phe	Ser	Arg	Ile	His	His	Ala	Ala	Glu	His	Phe	Thr	Ala
705					710					715					720
Asp	Cys	Ser	His	Asp	Asn	Arg	Pro	Tyr	Ser	Phe	Ser	Val	Tyr	Thr	Pro
			725						730					735	
Ser	Arg	Thr	Cys	Val	Val	Tyr	Ala	Pro	Val	Glu					
			740					745							

&lt;210&gt; 15

&lt;211&gt; 50

&lt;212&gt; PRT

&lt;213&gt; Hordeum vulgare

&lt;400&gt; 15

Asn	Asp	Leu	Gly	Ile	Trp	Glu	Ile	Phe	Leu	Pro	Asn	Asn	Ala	Asp	Gly
1				5					10					15	

Ser	Pro	Pro	Ile	Pro	His	Gly	Ser	Arg	Val	Lys	Val	Arg	Met	Asp	Thr
			20					25					30		

Pro	Ser	Gly	Thr	Lys	Asp	Ser	Ile	Pro	Ala	Trp	Ile	Lys	Phe	Ser	Val
		35					40					45			

Gln Ala  
50

<210> 16  
<211> 50  
<212> PRT  
<213> Hordeum vulgare

<400> 16

Asp	Asp	Tyr	Gly	Val	Trp	Glu	Ile	Phe	Leu	Pro	Asn	Asn	Ala	Asp	Gly
1				5					10					15	
Ser	Pro	Ala	Ile	Pro	His	Gly	Ser	Arg	Val	Lys	Ile	Arg	Met	Asp	Thr
			20					25					30		
Pro	Ser	Gly	Val	Lys	Asp	Ser	Ile	Ser	Ala	Trp	Ile	Lys	Phe	Ser	Val
		35					40					45			

Gln Ala  
50

<210> 17  
<211> 760  
<212> PRT  
<213> Oryza sativa

<400> 17

Ala	Ala	Gly	Ala	Ser	Gly	Glu	Val	Met	Ile	Pro	Glu	Gly	Glu	Ser	Asp
1				5					10					15	
Gly	Met	Pro	Val	Ser	Ala	Gly	Ser	Asp	Asp	Leu	Gln	Leu	Pro	Ala	Leu
			20					25					30		
Asp	Asp	Glu	Leu	Ser	Thr	Glu	Val	Gly	Ala	Glu	Val	Glu	Ile	Glu	Ser
		35					40					45			
Ser	Gly	Ala	Ser	Asp	Val	Glu	Gly	Val	Lys	Arg	Val	Val	Glu	Glu	Leu
	50					55					60				
Ala	Ala	Glu	Gln	Lys	Pro	Arg	Val	Val	Pro	Pro	Thr	Gly	Asp	Gly	Gln
65					70				75						80
Lys	Ile	Phe	Gln	Met	Asp	Ser	Met	Leu	Asn	Gly	Tyr	Lys	Tyr	His	Leu
			85						90					95	
Glu	Tyr	Arg	Tyr	Ser	Leu	Tyr	Arg	Arg	Leu	Arg	Ser	Asp	Ile	Asp	Gln
			100					105					110		
Tyr	Glu	Gly	Gly	Leu	Glu	Thr	Phe	Ser	Arg	Gly	Tyr	Glu	Lys	Phe	Gly
		115					120					125			
Phe	Asn	His	Ser	Ala	Glu	Gly	Val	Thr	Tyr	Arg	Glu	Trp	Ala	Pro	Gly

130	135	140
Ala His Ser Ala Ala Leu Val Gly Asp Phe Asn Asn Trp Asn Pro Asn 145 150 155 160		
Ala Asp Arg Met Ser Lys Asn Glu Phe Gly Val Trp Glu Ile Phe Leu 165 170 175		
Pro Asn Asn Ala Asp Gly Ser Ser Pro Ile Pro His Gly Ser Arg Val 180 185 190		
Lys Val Arg Met Glu Thr Pro Ser Gly Ile Lys Asp Ser Ile Pro Ala 195 200 205		
Trp Ile Lys Tyr Ser Val Gln Ala Ala Gly Glu Ile Pro Tyr Asn Gly 210 215 220		
Ile Tyr Tyr Asp Pro Pro Glu Glu Glu Lys Tyr Ile Phe Lys His Pro 225 230 235 240		
Gln Pro Lys Arg Pro Lys Ser Leu Arg Ile Tyr Glu Thr His Val Gly 245 250 255		
Met Ser Ser Thr Glu Pro Lys Ile Asn Thr Tyr Ala Asn Phe Arg Asp 260 265 270		
Glu Val Leu Pro Arg Ile Lys Lys Leu Gly Tyr Asn Ala Val Gln Ile 275 280 285		
Met Ala Ile Gln Glu His Ala Tyr Tyr Gly Ser Phe Gly Tyr His Val 290 295 300		
Thr Asn Phe Phe Ala Pro Ser Ser Arg Phe Gly Thr Pro Glu Asp Leu 305 310 315 320		
Lys Ser Leu Ile Asp Lys Ala His Glu Leu Gly Leu Val Val Leu Met 325 330 335		
Asp Val Val His Ser His Ala Ser Asn Asn Thr Leu Asp Gly Leu Asn 340 345 350		
Gly Phe Asp Gly Thr Asp Thr His Tyr Phe His Ser Gly Ser Arg Gly 355 360 365		
His His Trp Met Trp Asp Ser Arg Leu Phe Asn Tyr Gly Asn Trp Glu 370 375 380		
Val Leu Arg Phe Leu Leu Ser Asn Ala Arg Trp Trp Leu Glu Glu Tyr 385 390 395 400		
Lys Phe Asp Gly Phe Arg Phe Asp Gly Val Thr Ser Met Met Tyr Thr 405 410 415		
His His Gly Leu Gln Val Ala Phe Thr Gly Asn Tyr Ser Glu Tyr Phe 420 425 430		
Gly Phe Ala Thr Asp Ala Asp Ala Val Val Tyr Leu Met Leu Val Asn		

435					440					445					
Asp	Leu	Ile	His	Gly	Leu	Tyr	Pro	Glu	Ala	Ile	Thr	Ile	Gly	Glu	Asp
450					455					460					
Val	Ser	Gly	Met	Pro	Thr	Phe	Ala	Leu	Pro	Val	Gln	Asp	Gly	Gly	Val
465					470					475					480
Gly	Phe	Asp	Tyr	Arg	Leu	His	Met	Ala	Val	Pro	Asp	Lys	Trp	Ile	Glu
				485					490					495	
Leu	Leu	Lys	Gln	Ser	Asp	Glu	Ser	Trp	Lys	Met	Gly	Asp	Ile	Val	His
			500					505					510		
Thr	Leu	Thr	Asn	Arg	Arg	Trp	Ser	Glu	Lys	Cys	Val	Thr	Tyr	Ala	Glu
			515				520					525			
Ser	His	Asp	Gln	Ala	Leu	Val	Gly	Asp	Lys	Thr	Ile	Ala	Phe	Trp	Leu
			530				535					540			
Met	Asp	Lys	Asp	Met	Tyr	Asp	Phe	Met	Ala	Leu	Asp	Arg	Pro	Ala	Thr
545					550					555					560
Pro	Ser	Ile	Asp	Arg	Gly	Ile	Ala	Leu	His	Lys	Met	Ile	Arg	Leu	Ile
				565					570					575	
Thr	Met	Gly	Leu	Gly	Gly	Glu	Gly	Tyr	Leu	Asn	Phe	Met	Gly	Asn	Glu
			580					585					590		
Phe	Gly	His	Pro	Glu	Trp	Ile	Asp	Phe	Pro	Arg	Ala	Pro	Gln	Val	Leu
			595				600					605			
Pro	Asn	Gly	Lys	Phe	Ile	Pro	Gly	Asn	Asn	Asn	Ser	Tyr	Asp	Lys	Cys
			610				615					620			
Arg	Arg	Arg	Phe	Asp	Leu	Gly	Asp	Ala	Asp	Tyr	Leu	Arg	Tyr	Arg	Gly
625					630					635					640
Met	Leu	Glu	Phe	Asp	Arg	Ala	Met	Gln	Ser	Leu	Glu	Glu	Lys	Tyr	Gly
				645					650					655	
Phe	Met	Thr	Ser	Asp	His	Gln	Tyr	Ile	Ser	Arg	Lys	His	Glu	Glu	Asp
			660					665					670		
Lys	Met	Ile	Ile	Phe	Glu	Lys	Gly	Asp	Leu	Val	Phe	Val	Phe	Asn	Phe
			675				680					685			
His	Trp	Ser	Asn	Ser	Tyr	Phe	Asp	Tyr	Arg	Val	Gly	Cys	Leu	Lys	Pro
			690				695					700			
Gly	Lys	Tyr	Lys	Val	Val	Leu	Asp	Ser	Asp	Ala	Gly	Leu	Phe	Gly	Gly
705					710					715					720
Phe	Gly	Arg	Ile	His	His	Thr	Ala	Glu	His	Phe	Thr	Ala	Asp	Cys	Ser
				725					730					735	
His	Asp	Asn	Arg	Pro	Tyr	Ser	Phe	Ser	Val	Tyr	Ser	Pro	Ser	Arg	Thr



740                      745                      750  
 Cys Val Val Tyr Ala Pro Ala Glu  
       755                      760  
  
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 <211> 844  
 <212> PRT  
 <213> Oryza sativa  
  
 <400> 18  
  
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 1                      5                      10                      15  
 Ala Gly Glu Met Ala Ala Pro Ala Ser Ala Val Pro Gly Ser Ala Ala  
       20                      25                      30  
 Gly Leu Arg Ala Gly Ala Val Arg Phe Pro Val Pro Ala Gly Ala Arg  
       35                      40                      45  
 Ser Trp Arg Ala Ala Ala Glu Leu Pro Thr Ser Arg Ser Leu Leu Ser  
       50                      55                      60  
 Gly Arg Arg Phe Pro Gly Ala Val Arg Val Gly Gly Ser Gly Gly Arg  
 65                      70                      75                      80  
 Val Ala Val Arg Ala Ala Gly Ala Ser Gly Glu Val Met Ile Pro Glu  
       85                      90                      95  
 Gly Glu Ser Asp Gly Met Pro Val Ser Ala Gly Ser Asp Asp Leu Gln  
       100                      105                      110  
 Leu Pro Ala Leu Asp Asp Glu Leu Ser Thr Glu Val Gly Ala Glu Val  
       115                      120                      125  
 Glu Ile Glu Ser Ser Gly Ala Ser Asp Val Glu Gly Val Lys Arg Val  
       130                      135                      140  
 Val Glu Glu Leu Ala Ala Glu Gln Lys Pro Arg Val Val Pro Pro Thr  
 145                      150                      155                      160  
 Gly Asp Gly Gln Lys Ile Phe Gln Met Asp Ser Met Leu Asn Gly Tyr  
       165                      170                      175  
 Lys Tyr His Leu Glu Tyr Arg Tyr Ser Leu Tyr Arg Arg Leu Arg Ser  
       180                      185                      190  
 Asp Ile Asp Gln Tyr Glu Gly Gly Leu Glu Thr Phe Ser Arg Gly Tyr  
       195                      200                      205  
 Glu Lys Phe Gly Phe Asn His Ser Ala Glu Gly Val Thr Tyr Arg Glu  
       210                      215                      220  
 Trp Ala Pro Gly Ala His Ser Ala Ala Leu Val Gly Asp Phe Asn Asn  
 225                      230                      235                      240

Trp Asn Pro Asn Ala Asp Arg Met Ser Lys Asn Glu Phe Gly Val Trp  
 245 250 255  
 Glu Ile Phe Leu Pro Asn Asn Ala Asp Gly Ser Ser Pro Ile Pro His  
 260 265 270  
 Gly Ser Arg Val Lys Val Arg Met Glu Thr Pro Ser Gly Ile Lys Asp  
 275 280 285  
 Ser Ile Pro Ala Trp Ile Lys Tyr Ser Val Gln Ala Ala Gly Glu Ile  
 290 295 300  
 Pro Tyr Asn Gly Ile Tyr Tyr Asp Pro Pro Glu Glu Glu Lys Tyr Ile  
 305 310 315 320  
 Phe Lys His Pro Gln Pro Lys Arg Pro Lys Ser Leu Arg Ile Tyr Glu  
 325 330 335  
 Thr His Val Gly Met Ser Ser Thr Glu Pro Lys Ile Asn Thr Tyr Ala  
 340 345 350  
 Asn Phe Arg Asp Glu Val Leu Pro Arg Ile Lys Lys Leu Gly Tyr Asn  
 355 360 365  
 Ala Val Gln Ile Met Ala Ile Gln Glu His Ala Tyr Tyr Gly Ser Phe  
 370 375 380  
 Gly Tyr His Val Thr Asn Phe Phe Ala Pro Ser Ser Arg Phe Gly Thr  
 385 390 395 400  
 Pro Glu Asp Leu Lys Ser Leu Ile Asp Lys Ala His Glu Leu Gly Leu  
 405 410 415  
 Val Val Leu Met Asp Val Val His Ser His Ala Ser Asn Asn Thr Leu  
 420 425 430  
 Asp Gly Leu Asn Gly Phe Asp Gly Thr Asp Thr His Tyr Phe His Ser  
 435 440 445  
 Gly Ser Arg Gly His His Trp Met Trp Asp Ser Arg Leu Phe Asn Tyr  
 450 455 460  
 Gly Asn Trp Glu Val Leu Arg Phe Leu Leu Ser Asn Ala Arg Trp Trp  
 465 470 475 480  
 Leu Glu Glu Tyr Lys Phe Asp Gly Phe Arg Phe Asp Gly Val Thr Ser  
 485 490 495  
 Met Met Tyr Thr His His Gly Leu Gln Val Ala Phe Thr Gly Asn Tyr  
 500 505 510  
 Ser Glu Tyr Phe Gly Phe Ala Thr Asp Ala Asp Ala Val Val Tyr Leu  
 515 520 525  
 Met Leu Val Asn Asp Leu Ile His Gly Leu Tyr Pro Glu Ala Ile Thr  
 530 535 540

Ile Gly Glu Asp Val Ser Gly Met Pro Thr Phe Ala Leu Pro Val Gln  
 545 550 555 560  
 Asp Gly Gly Val Gly Phe Asp Tyr Arg Leu His Met Ala Val Pro Asp  
 565 570 575  
 Lys Trp Ile Glu Leu Leu Lys Gln Ser Asp Glu Ser Trp Lys Met Gly  
 580 585 590  
 Asp Ile Val His Thr Leu Thr Asn Arg Arg Trp Ser Glu Lys Cys Val  
 595 600 605  
 Thr Tyr Ala Glu Ser His Asp Gln Ala Leu Val Gly Asp Lys Thr Ile  
 610 615 620  
 Ala Phe Trp Leu Met Asp Lys Asp Met Tyr Asp Phe Met Ala Leu Asp  
 625 630 635 640  
 Arg Pro Ala Thr Pro Ser Ile Asp Arg Gly Ile Ala Leu His Lys Met  
 645 650 655  
 Ile Arg Leu Ile Thr Met Gly Leu Gly Gly Glu Gly Tyr Leu Asn Phe  
 660 665 670  
 Met Gly Asn Glu Phe Gly His Pro Glu Trp Ile Asp Phe Pro Arg Ala  
 675 680 685  
 Pro Gln Val Leu Pro Asn Gly Lys Phe Ile Pro Gly Asn Asn Asn Ser  
 690 695 700  
 Tyr Asp Lys Cys Arg Arg Arg Phe Asp Leu Gly Asp Ala Asp Tyr Leu  
 705 710 715 720  
 Arg Tyr Arg Gly Met Leu Glu Phe Asp Arg Ala Met Gln Ser Leu Glu  
 725 730 735  
 Glu Lys Tyr Gly Phe Met Thr Ser Asp His Gln Tyr Ile Ser Arg Lys  
 740 745 750  
 His Glu Glu Asp Lys Met Ile Ile Phe Glu Lys Gly Asp Leu Val Phe  
 755 760 765  
 Val Phe Asn Phe His Trp Ser Asn Ser Tyr Phe Asp Tyr Arg Val Gly  
 770 775 780  
 Cys Leu Lys Pro Gly Lys Tyr Lys Val Val Leu Asp Ser Asp Ala Gly  
 785 790 795 800  
 Leu Phe Gly Gly Phe Gly Arg Ile His His Thr Ala Glu His Phe Thr  
 805 810 815  
 Ala Asp Cys Ser His Asp Asn Arg Pro Tyr Ser Phe Ser Val Tyr Ser  
 820 825 830  
 Pro Ser Arg Thr Cys Val Val Tyr Ala Pro Ala Glu  
 835 840

<210> 19  
 <211> 857  
 <212> PRT  
 <213> Pisum sativum

<400> 19

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Lys Val Leu Ile Pro Glu Asp Gln Asp Asn Ser Val Ser Leu Ala Asp
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Gln Leu Glu Asn Pro Asp Ile Thr Ser Glu Asp Ala Gln Asn Leu Glu
          20          25          30

Asp Leu Thr Met Lys Asp Gly Asn Lys Tyr Asn Ile Asp Glu Ser Thr
          35          40          45

Ser Ser Tyr Arg Glu Val Gly Asp Glu Lys Gly Ser Val Thr Ser Ser
          50          55          60

Ser Leu Val Asp Val Asn Thr Asp Thr Gln Ala Lys Lys Thr Ser Val
65          70          75          80

His Ser Asp Lys Lys Val Lys Val Asp Lys Pro Lys Ile Ile Pro Pro
          85          90          95

Pro Gly Thr Gly Gln Lys Ile Tyr Glu Ile Asp Pro Leu Leu Gln Ala
          100          105          110

His Arg Gln His Leu Asp Phe Arg Tyr Gly Gln Tyr Lys Arg Ile Arg
          115          120          125

Glu Glu Ile Asp Lys Tyr Glu Gly Gly Leu Asp Ala Phe Ser Arg Gly
          130          135          140

Tyr Glu Lys Phe Gly Phe Thr Arg Ser Ala Thr Gly Ile Thr Tyr Arg
145          150          155          160

Glu Trp Ala Pro Gly Ala Lys Ser Ala Ala Leu Val Gly Asp Phe Asn
          165          170          175

Asn Trp Asn Pro Asn Ala Asp Val Met Thr Lys Asp Ala Phe Gly Val
          180          185          190

Trp Glu Ile Phe Leu Pro Asn Asn Ala Asp Gly Ser Pro Pro Ile Pro
          195          200          205

His Gly Ser Arg Val Lys Ile His Met Asp Thr Pro Ser Gly Ile Lys
          210          215          220

Asp Ser Ile Pro Ala Trp Ile Lys Phe Ser Val Gln Ala Pro Gly Glu
225          230          235          240

Ile Pro Tyr Asn Gly Ile Tyr Tyr Asp Pro Pro Glu Glu Glu Lys Tyr
          245          250          255

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Val	Phe	Lys	His	Pro	Gln	Pro	Lys	Arg	Pro	Gln	Ser	Ile	Arg	Ile	Tyr	260	265	270
Glu	Ser	His	Ile	Gly	Met	Ser	Ser	Pro	Glu	Pro	Lys	Ile	Asn	Thr	Tyr	275	280	285
Ala	Asn	Phe	Arg	Asp	Asp	Val	Leu	Pro	Arg	Ile	Lys	Lys	Leu	Gly	Tyr	290	295	300
Asn	Ala	Val	Gln	Ile	Met	Ala	Ile	Gln	Glu	His	Ser	Tyr	Tyr	Ala	Ser	305	310	315
Phe	Gly	Tyr	His	Val	Thr	Asn	Phe	Phe	Ala	Pro	Ser	Ser	Arg	Phe	Gly	325	330	335
Thr	Pro	Glu	Asp	Leu	Lys	Ser	Leu	Ile	Asp	Arg	Ala	His	Glu	Leu	Gly	340	345	350
Leu	Leu	Val	Leu	Met	Asp	Ile	Val	His	Ser	His	Ser	Ser	Asn	Asn	Thr	355	360	365
Leu	Asp	Gly	Leu	Asn	Met	Phe	Asp	Gly	Thr	Asp	Gly	His	Tyr	Phe	His	370	375	380
Pro	Gly	Ser	Arg	Gly	Tyr	His	Trp	Met	Trp	Asp	Ser	Arg	Leu	Phe	Asn	385	390	395
Tyr	Gly	Ser	Trp	Glu	Val	Leu	Arg	Tyr	Leu	Leu	Ser	Asn	Ala	Arg	Trp	405	410	415
Trp	Leu	Asp	Glu	Tyr	Lys	Phe	Asp	Gly	Phe	Arg	Phe	Asp	Gly	Val	Thr	420	425	430
Ser	Met	Met	Tyr	Thr	His	His	Gly	Leu	Gln	Val	Ser	Phe	Thr	Gly	Asn	435	440	445
Tyr	Ser	Glu	Tyr	Phe	Gly	Leu	Ala	Thr	Asp	Val	Glu	Ala	Val	Val	Tyr	450	455	460
Met	Met	Leu	Val	Asn	Asp	Leu	Ile	His	Gly	Leu	Phe	Pro	Glu	Ala	Val	465	470	475
Ser	Ile	Gly	Glu	Asp	Val	Ser	Gly	Met	Pro	Thr	Phe	Cys	Leu	Pro	Thr	485	490	495
Gln	Asp	Gly	Gly	Ile	Gly	Phe	Asn	Tyr	Arg	Leu	His	Met	Ala	Val	Ala	500	505	510
Asp	Lys	Trp	Ile	Glu	Leu	Leu	Lys	Lys	Gln	Asp	Glu	Asp	Trp	Arg	Met	515	520	525
Gly	Asp	Ile	Val	His	Thr	Leu	Thr	Asn	Arg	Arg	Trp	Leu	Glu	Lys	Cys	530	535	540
Val	Val	Tyr	Ala	Glu	Ser	His	Asp	Gln	Ala	Leu	Val	Gly	Asp	Lys	Thr	545	550	555

Leu Ala Phe Trp Leu Met Asp Lys Asp Met Tyr Asp Phe Met Ala Leu  
 565 570 575  
 Asp Arg Pro Ser Thr Pro Leu Ile Asp Arg Gly Ile Ala Leu His Lys  
 580 585 590  
 Met Ile Arg Leu Ile Thr Met Gly Leu Gly Gly Glu Gly Tyr Leu Asn  
 595 600 605  
 Phe Met Gly Asn Glu Phe Gly His Pro Glu Trp Ile Asp Phe Pro Arg  
 610 615 620  
 Gly Glu Gln His Leu Pro Asn Gly Lys Ile Val Pro Gly Asn Asn Asn  
 625 630 635 640  
 Ser Tyr Asp Lys Cys Arg Arg Arg Phe Asp Leu Gly Asp Ala Asp Tyr  
 645 650 655  
 Leu Arg Tyr His Gly Met Gln Glu Phe Asp Arg Ala Met Gln His Leu  
 660 665 670  
 Glu Glu Arg Tyr Gly Phe Met Thr Ser Glu His Gln Tyr Ile Ser Arg  
 675 680 685  
 Lys Asn Glu Gly Asp Arg Val Ile Ile Phe Glu Arg Asp Asn Leu Val  
 690 695 700  
 Phe Val Phe Asn Phe His Trp Thr Asn Ser Tyr Ser Asp Tyr Lys Val  
 705 710 715 720  
 Gly Cys Leu Lys Pro Gly Lys Tyr Lys Ile Val Leu Asp Ser Asp Asp  
 725 730 735  
 Thr Leu Phe Gly Gly Phe Asn Arg Leu Asn His Thr Ala Glu Tyr Phe  
 740 745 750  
 Thr Ser Glu Gly Trp Tyr Asp Asp Arg Pro Arg Ser Phe Leu Val Tyr  
 755 760 765  
 Ala Pro Ser Arg Thr Ala Val Val Tyr Ala Leu Ala Asp Gly Val Glu  
 770 775 780  
 Ser Glu Pro Ile Glu Leu Ser Asp Gly Val Glu Ser Glu Pro Ile Glu  
 785 790 795 800  
 Leu Ser Val Gly Val Glu Ser Glu Pro Ile Glu Leu Ser Val Glu Glu  
 805 810 815  
 Ala Glu Ser Glu Pro Ile Glu Arg Ser Val Glu Glu Val Glu Ser Glu  
 820 825 830  
 Thr Thr Gln Gln Ser Val Glu Val Glu Ser Glu Thr Thr Gln Gln Ser  
 835 840 845  
 Val Glu Val Glu Ser Glu Thr Thr Gln  
 850 855

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 <211> 779  
 <212> PRT  
 <213> Solanum tuberosum

<400> 20

Thr Met Ala Pro Leu Glu Glu Asp Val Lys Thr Glu Asn Ile Gly Leu  
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Leu Asn Leu Asp Pro Thr Leu Glu Pro Tyr Leu Asp His Phe Arg His  
 20 25 30

Arg Met Lys Arg Tyr Val Asp Gln Lys Met Leu Ile Glu Lys Tyr Glu  
 35 40 45

Gly Pro Leu Glu Glu Phe Ala Gln Gly Tyr Leu Lys Phe Gly Phe Asn  
 50 55 60

Arg Glu Asp Gly Cys Ile Val Tyr Arg Glu Trp Ala Pro Ala Ala Gln  
 65 70 75 80

Glu Asp Glu Val Ile Gly Asp Phe Asn Gly Trp Asn Gly Ser Asn His  
 85 90 95

Met Met Glu Lys Asp Gln Phe Gly Val Trp Ser Ile Arg Ile Pro Asp  
 100 105 110

Val Asp Ser Lys Pro Val Ile Pro His Asn Ser Arg Val Lys Phe Arg  
 115 120 125

Phe Lys His Gly Asn Gly Val Trp Val Asp Arg Ile Pro Ala Trp Ile  
 130 135 140

Lys Tyr Ala Thr Ala Asp Ala Thr Lys Phe Ala Ala Pro Tyr Asp Gly  
 145 150 155 160

Val Tyr Trp Asp Pro Pro Pro Ser Glu Arg Tyr His Phe Lys Tyr Pro  
 165 170 175

Arg Pro Pro Lys Pro Arg Ala Pro Arg Ile Tyr Glu Ala His Val Gly  
 180 185 190

Met Ser Ser Ser Glu Pro Arg Val Asn Ser Tyr Arg Glu Phe Ala Asp  
 195 200 205

Asp Val Leu Pro Arg Ile Lys Ala Asn Asn Tyr Asn Thr Val Gln Leu  
 210 215 220

Met Ala Ile Met Glu His Ser Tyr Tyr Gly Ser Phe Gly Tyr His Val  
 225 230 235 240

Thr Asn Phe Phe Ala Val Ser Ser Arg Tyr Gly Asn Pro Glu Asp Leu  
 245 250 255

Lys Tyr Leu Ile Asp Lys Ala His Ser Leu Gly Leu Gln Val Leu Val

			260					265					270				
Asp	Val	Val	His	Ser	His	Ala	Ser	Asn	Asn	Val	Thr	Asp	Gly	Leu	Asn		
		275					280					285					
Gly	Phe	Asp	Ile	Gly	Gln	Gly	Ser	Gln	Glu	Ser	Tyr	Phe	His	Ala	Gly		
		290				295					300						
Glu	Arg	Gly	Tyr	His	Lys	Leu	Trp	Asp	Ser	Arg	Leu	Phe	Asn	Tyr	Ala		
305					310					315							
Asn	Trp	Glu	Val	Leu	Arg	Phe	Leu	Leu	Ser	Asn	Leu	Arg	Trp	Trp	Leu		
				325					330								
Glu	Glu	Tyr	Asn	Phe	Asp	Gly	Phe	Arg	Phe	Asp	Gly	Ile	Thr	Ser	Met		
			340					345					350				
Leu	Tyr	Val	His	His	Gly	Ile	Asn	Met	Gly	Phe	Thr	Gly	Asn	Tyr	Asn		
		355					360					365					
Glu	Tyr	Phe	Ser	Glu	Ala	Thr	Asp	Val	Asp	Ala	Val	Val	Tyr	Leu	Met		
		370				375					380						
Leu	Ala	Asn	Asn	Leu	Ile	His	Lys	Ile	Phe	Pro	Asp	Ala	Thr	Val	Ile		
385					390					395							
Ala	Glu	Asp	Val	Ser	Gly	Met	Pro	Gly	Leu	Gly	Arg	Pro	Val	Ser	Glu		
				405					410								
Gly	Gly	Ile	Gly	Phe	Asp	Tyr	Arg	Leu	Ala	Met	Ala	Ile	Pro	Asp	Lys		
			420					425					430				
Trp	Ile	Asp	Tyr	Leu	Lys	Asn	Lys	Asn	Asp	Glu	Asp	Trp	Ser	Met	Lys		
		435					440					445					
Glu	Val	Thr	Ser	Ser	Leu	Thr	Asn	Arg	Arg	Tyr	Thr	Glu	Lys	Cys	Ile		
		450				455					460						
Ala	Tyr	Ala	Glu	Ser	His	Asp	Gln	Ser	Ile	Val	Gly	Asp	Lys	Thr	Ile		
465					470					475							
Ala	Phe	Leu	Leu	Met	Asp	Lys	Glu	Met	Tyr	Ser	Gly	Met	Ser	Cys	Leu		
				485					490								
Thr	Asp	Ala	Ser	Pro	Val	Val	Asp	Arg	Gly	Ile	Ala	Leu	His	Lys	Met		
			500					505					510				
Ile	His	Phe	Phe	Thr	Met	Ala	Leu	Gly	Gly	Glu	Gly	Tyr	Leu	Asn	Phe		
		515					520					525					
Met	Gly	Asn	Glu	Phe	Gly	His	Pro	Glu	Trp	Ile	Asp	Phe	Pro	Arg	Glu		
		530				535					540						
Gly	Asn	Asn	Trp	Ser	Tyr	Asp	Lys	Cys	Arg	Arg	Gln	Trp	Asn	Leu	Ala		
545					550					555							
Asp	Ser	Glu	His	Leu	Arg	Tyr	Lys	Phe	Met	Asn	Ala	Phe	Asp	Arg	Ala		



565					570					575					
Met	Asn	Ser	Leu	Asp	Glu	Lys	Phe	Ser	Phe	Leu	Ala	Ser	Gly	Lys	Gln
			580					585					590		
Ile	Val	Ser	Ser	Met	Asp	Asp	Asp	Asn	Lys	Val	Val	Val	Phe	Glu	Arg
		595					600					605			
Gly	Asp	Leu	Val	Phe	Val	Phe	Asn	Phe	His	Pro	Lys	Asn	Thr	Tyr	Glu
	610					615					620				
Gly	Tyr	Lys	Val	Gly	Cys	Asp	Leu	Pro	Gly	Lys	Tyr	Arg	Val	Ala	Leu
625					630					635					640
Asp	Ser	Asp	Ala	Trp	Glu	Phe	Gly	Gly	His	Gly	Arg	Thr	Gly	His	Asp
				645					650					655	
Val	Asp	His	Phe	Thr	Ser	Pro	Glu	Gly	Ile	Pro	Gly	Val	Pro	Glu	Thr
			660					665					670		
Asn	Phe	Asn	Gly	Arg	Gln	Ile	Pro	Ser	Lys	Cys	Cys	Leu	Leu	Arg	Glu
		675					680					685			
His	Val	Trp	Leu	Ile	Thr	Glu	Leu	Met	Asn	Ala	Cys	Gln	Lys	Leu	Lys
	690					695					700				
Ile	Thr	Arg	Gln	Thr	Phe	Val	Val	Ser	Tyr	Tyr	Gln	Gln	Pro	Ile	Ser
705					710					715					720
Arg	Arg	Val	Thr	Arg	Asn	Leu	Lys	Ile	Arg	Tyr	Leu	Gln	Ile	Ser	Val
				725					730					735	
Thr	Leu	Thr	Asn	Ala	Cys	Gln	Lys	Leu	Lys	Phe	Thr	Arg	Gln	Thr	Phe
			740					745					750		
Leu	Val	Ser	Tyr	Tyr	Gln	Gln	Pro	Ile	Leu	Arg	Arg	Val	Thr	Arg	Lys
		755					760					765			
Leu	Lys	Asp	Ser	Leu	Ser	Thr	Asn	Ile	Ser	Thr					
	770					775									

<210> 21  
 <211> 762  
 <212> PRT  
 <213> Triticum aestivum

<400> 21

Thr	Met	Ala	Thr	Ala	Glu	Asp	Gly	Val	Gly	Asp	Leu	Pro	Ile	Tyr	Asp
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Leu	Asp	Pro	Lys	Phe	Ala	Gly	Phe	Lys	Glu	His	Phe	Ser	Tyr	Arg	Met
			20					25					30		
Lys	Lys	Tyr	Leu	Asp	Gln	Lys	His	Ser	Ile	Glu	Lys	His	Glu	Gly	Gly
		35					40					45			

Leu Glu Glu Phe Ser Lys Gly Tyr Leu Lys Phe Gly Ile Asn Thr Glu  
 50 55 60  
 Asn Asp Ala Thr Val Tyr Arg Glu Trp Ala Pro Ala Ala Met Asp Ala  
 65 70 75 80  
 Gln Leu Ile Gly Asp Phe Asn Asn Trp Asn Gly Ser Gly His Arg Met  
 85 90 95  
 Thr Lys Asp Asn Tyr Gly Val Trp Ser Ile Arg Ile Ser His Val Asn  
 100 105 110  
 Gly Lys Pro Ala Ile Pro His Asn Ser Lys Val Lys Phe Arg Phe His  
 115 120 125  
 Arg Gly Asp Gly Leu Trp Val Asp Arg Val Pro Ala Trp Ile Arg Tyr  
 130 135 140  
 Ala Thr Phe Asp Ala Ser Lys Phe Gly Ala Pro Tyr Asp Gly Val His  
 145 150 155 160  
 Trp Asp Pro Pro Ser Gly Glu Arg Tyr Val Phe Lys His Pro Arg Pro  
 165 170 175  
 Arg Lys Pro Asp Ala Pro Arg Ile Tyr Glu Ala His Val Gly Met Ser  
 180 185 190  
 Gly Glu Lys Pro Glu Val Ser Thr Tyr Arg Glu Phe Ala Asp Asn Val  
 195 200 205  
 Leu Pro Arg Ile Lys Ala Asn Asn Tyr Asn Thr Val Gln Leu Met Ala  
 210 215 220  
 Ile Met Glu His Ser Tyr Tyr Ala Ser Phe Gly Tyr His Val Thr Asn  
 225 230 235 240  
 Phe Phe Ala Val Ser Ser Arg Ser Gly Thr Pro Glu Asp Leu Lys Tyr  
 245 250 255  
 Leu Val Asp Lys Ala His Ser Leu Gly Leu Arg Val Leu Met Asp Val  
 260 265 270  
 Val His Ser His Ala Ser Ser Asn Lys Thr Asp Gly Leu Asn Gly Tyr  
 275 280 285  
 Asp Val Gly Gln Asn Thr Gln Glu Ser Tyr Phe His Thr Gly Glu Arg  
 290 295 300  
 Gly Tyr His Lys Leu Trp Asp Ser Arg Leu Phe Asn Tyr Ala Asn Trp  
 305 310 315 320  
 Glu Val Leu Arg Phe Leu Leu Ser Asn Leu Arg Tyr Trp Met Asp Glu  
 325 330 335  
 Phe Met Phe Asp Gly Phe Arg Phe Asp Gly Val Thr Ser Met Leu Tyr  
 340 345 350

Asn His His Gly Ile Asn Met Ser Phe Ala Gly Ser Tyr Lys Glu Tyr  
 355 360 365  
 Phe Gly Leu Asp Thr Asp Val Asp Ala Val Val Tyr Leu Met Leu Ala  
 370 375 380  
 Asn His Leu Met His Lys Leu Leu Pro Glu Ala Thr Val Val Ala Glu  
 385 390 395 400  
 Asp Val Ser Gly Met Pro Val Leu Cys Arg Ser Val Asp Glu Gly Gly  
 405 410 415  
 Val Gly Phe Asp Tyr Arg Leu Ala Met Ala Ile Pro Asp Arg Trp Ile  
 420 425 430  
 Asp Tyr Leu Lys Asn Lys Asp Asp Leu Glu Trp Ser Met Ser Gly Ile  
 435 440 445  
 Ala His Thr Leu Thr Asn Arg Arg Tyr Thr Glu Lys Cys Ile Ala Tyr  
 450 455 460  
 Ala Glu Ser His Asp Gln Ser Ile Val Gly Asp Lys Thr Met Ala Phe  
 465 470 475 480  
 Leu Leu Met Asp Lys Glu Met Tyr Thr Gly Met Ser Asp Leu Gln Pro  
 485 490 495  
 Ala Ser Pro Thr Ile Asp Arg Gly Ile Ala Leu Gln Lys Met Ile His  
 500 505 510  
 Phe Ile Thr Met Ala Leu Gly Gly Asp Gly Tyr Leu Asn Phe Met Gly  
 515 520 525  
 Asn Glu Phe Gly His Pro Glu Trp Ile Asp Phe Pro Arg Glu Gly Asn  
 530 535 540  
 Asn Trp Ser Tyr Asp Lys Cys Arg Arg Gln Trp Ser Leu Ala Asp Ile  
 545 550 555 560  
 Asp His Leu Arg Tyr Lys Tyr Met Asn Ala Phe Asp Gln Ala Met Asn  
 565 570 575  
 Ala Leu Asp Asp Lys Phe Ser Phe Leu Ser Ser Ser Lys Gln Ile Val  
 580 585 590  
 Ser Asp Met Asn Glu Glu Lys Lys Ile Ile Val Phe Glu Arg Gly Asp  
 595 600 605  
 Leu Val Phe Val Phe Asn Phe His Pro Ser Lys Thr Tyr Asp Gly Tyr  
 610 615 620  
 Lys Val Gly Cys Asp Leu Pro Gly Lys Tyr Lys Val Ala Leu Asp Ser  
 625 630 635 640  
 Asp Ala Leu Met Phe Gly Gly His Gly Arg Val Ala His Asp Asn Asp  
 645 650 655

His Phe Thr Ser Pro Glu Gly Val Pro Gly Val Pro Glu Thr Asn Phe  
 660 665 670  
 Asn Asn Arg Pro Asn Ser Phe Lys Ile Leu Ser Pro Ser Arg Thr Cys  
 675 680 685  
 Val Ala Tyr Tyr Arg Val Glu Glu Lys Ala Glu Lys Pro Lys Asp Glu  
 690 695 700  
 Gly Ala Ala Ser Trp Gly Lys Thr Ala Leu Gly Tyr Ile Asp Val Glu  
 705 710 715 720  
 Ala Thr Gly Val Lys Asp Ala Ala Asp Gly Glu Ala Thr Ser Gly Ser  
 725 730 735  
 Glu Lys Ala Ser Thr Gly Gly Asp Ser Ser Lys Lys Gly Ile Asn Phe  
 740 745 750  
 Val Phe Leu Ser Pro Asp Lys Asp Asn Lys  
 755 760

<210> 22  
 <211> 703  
 <212> PRT  
 <213> Triticum aestivum

<400> 22

Ser Pro Pro Thr Leu Thr Ser Pro Pro Pro Ser Ala Val Pro Ser Thr  
 1 5 10 15  
 Thr Met Leu Cys Leu Ser Ser Ser Leu Leu Pro Arg Pro Ser Ala Ala  
 20 25 30  
 Ala Asp Arg Pro Leu Pro Gly Ile Ile Ala Gly Gly Gly Gly Gly Lys  
 35 40 45  
 Arg Leu Ser Val Val Pro Ser Val Pro Phe Leu Leu Arg Trp Leu Trp  
 50 55 60  
 Pro Arg Lys Ala Lys Ser Lys Ser Phe Val Ser Val Thr Ala Arg Gly  
 65 70 75 80  
 Asn Lys Ile Ala Ala Thr Thr Gly Tyr Gly Ser Asp His Leu Pro Ile  
 85 90 95  
 Tyr Asp Leu Asp Leu Lys Leu Ala Glu Phe Lys Asp His Phe Asp Tyr  
 100 105 110  
 Thr Arg Asn Arg Tyr Ile Glu Gln Lys His Leu Ile Glu Lys His Glu  
 115 120 125  
 Gly Ser Leu Glu Glu Phe Ser Lys Gly Tyr Leu Lys Phe Gly Ile Asn  
 130 135 140

Thr	Glu	His	Gly	Ala	Ser	Val	Tyr	Arg	Glu	Trp	Ala	Pro	Ala	Ala	Glu	145	150	155	160
Glu	Ala	Gln	Leu	Val	Gly	Asp	Phe	Asn	Asn	Trp	Asn	Gly	Ser	Gly	His	165	170	175	
Lys	Met	Ala	Lys	Asp	Asn	Phe	Gly	Val	Trp	Ser	Ile	Arg	Ile	Ser	His	180	185	190	
Val	Asn	Gly	Lys	Pro	Ala	Ile	Pro	His	Asn	Ser	Lys	Val	Lys	Phe	Arg	195	200	205	
Phe	Arg	His	His	Gly	Val	Trp	Val	Glu	Gln	Ile	Pro	Ala	Trp	Ile	Arg	210	215	220	
Tyr	Ala	Thr	Val	Thr	Ala	Ser	Glu	Ser	Gly	Ala	Pro	Tyr	Asp	Gly	Leu	225	230	235	240
His	Trp	Asp	Pro	Pro	Ser	Ser	Glu	Arg	Tyr	Val	Phe	Asn	His	Pro	Arg	245	250	255	
Pro	Pro	Lys	Pro	Asp	Val	Pro	Arg	Ile	Tyr	Glu	Ala	His	Val	Gly	Val	260	265	270	
Ser	Gly	Gly	Lys	Leu	Glu	Ala	Gly	Thr	Tyr	Arg	Glu	Phe	Pro	Asp	Asn	275	280	285	
Val	Leu	Pro	Cys	Leu	Arg	Ala	Thr	Asn	Tyr	Asn	Thr	Val	Gln	Leu	Met	290	295	300	
Gly	Ile	Met	Glu	His	Ser	Asp	Ser	Ala	Ser	Phe	Gly	Tyr	His	Val	Thr	305	310	315	320
Asn	Phe	Phe	Ala	Val	Ser	Ser	Arg	Ser	Gly	Thr	Pro	Glu	Asp	Leu	Lys	325	330	335	
Tyr	Leu	Ile	Asp	Lys	Ala	His	Ser	Leu	Gly	Leu	Arg	Val	Leu	Met	Asp	340	345	350	
Val	Val	His	Ser	His	Ala	Ser	Asn	Asn	Val	Ile	Asp	Gly	Leu	Asn	Gly	355	360	365	
Tyr	Asp	Val	Gly	Gln	Ser	Ala	His	Glu	Ser	Tyr	Phe	Tyr	Thr	Gly	Asp	370	375	380	
Lys	Gly	Tyr	Asn	Lys	Met	Trp	Asn	Gly	Arg	Met	Phe	Asn	Tyr	Ala	Asn	385	390	395	400
Trp	Glu	Val	Leu	Arg	Phe	Leu	Leu	Ser	Asn	Leu	Arg	Tyr	Trp	Met	Asp	405	410	415	
Glu	Phe	Met	Phe	Asp	Gly	Phe	Arg	Phe	Val	Gly	Val	Thr	Ser	Met	Leu	420	425	430	
Tyr	Asn	His	Asn	Gly	Ile	Asn	Met	Ser	Phe	Asn	Gly	Asn	Tyr	Lys	Asp	435	440	445	

Tyr Ile Gly Leu Asp Thr Asn Val Asp Ala Phe Val Tyr Met Met Leu  
 450 455 460

Ala Asn His Leu Met His Lys Leu Phe Pro Glu Ala Ile Val Val Ala  
 465 470 475 480

Val Asp Val Ser Gly Met Pro Val Leu Cys Trp Pro Val Asp Glu Gly  
 485 490 495

Gly Leu Gly Phe Asp Tyr Arg Gln Ala Met Thr Ile Pro Asp Arg Trp  
 500 505 510

Ile Asp Tyr Leu Glu Asn Lys Gly Asp Gln Gln Trp Ser Met Ser Ser  
 515 520 525

Val Ile Ser Gln Thr Leu Thr Asn Arg Arg Tyr Pro Glu Lys Phe Ile  
 530 535 540

Ala Tyr Ala Glu Arg Gln Asn His Ser Ile Ile Gly Ser Lys Thr Met  
 545 550 555 560

Ala Phe Leu Leu Met Glu Trp Glu Thr Tyr Ser Gly Met Ser Ala Met  
 565 570 575

Asp Pro Asp Ser Pro Thr Ile Asp Arg Ala Ile Ala Leu Gln Lys Met  
 580 585 590

Ile His Phe Ile Thr Met Ala Phe Gly Gly Asp Ser Tyr Leu Lys Phe  
 595 600 605

Met Gly Asn Glu Tyr Met Asn Ala Phe Val Gln Ala Val Asp Thr Pro  
 610 615 620

Ser Asp Lys Cys Ser Phe Leu Ser Ser Ser Asn Gln Thr Ala Ser His  
 625 630 635 640

Met Asn Glu Glu Glu Lys Gly Ser Ala Leu Thr Lys Gly Tyr Thr His  
 645 650 655

Leu Arg Ser Gly Cys Phe Asp Pro Ser Leu Pro Ser Thr Ser Ser Cys  
 660 665 670

Ala Phe Leu Gly Pro Ser Asn Gln Ser Pro Phe Ser Lys Pro Phe Ile  
 675 680 685

Gly Phe Pro Gly Cys Ile Phe Cys Cys Gly Leu Phe Lys Gly Glu  
 690 695 700

<210> 23

<211> 752

<212> PRT

<213> Zea mays

<400> 23

Thr Met Ala Thr Ala Lys Gly Asp Val Asp His Leu Pro Ile Tyr Asp

1	5	10	15
Leu Asp Pro Lys	Leu Glu Ile Phe	Lys Asp His Phe Arg	Tyr Arg Met
20		25	30
Lys Arg Phe Leu	Glu Gln Lys Gly	Ser Ile Glu Glu	Asn Glu Gly Ser
35		40	45
Leu Glu Ser Phe	Ser Lys Gly Tyr	Leu Lys Phe Gly	Ile Asn Thr Asn
50		55	60
Glu Asp Gly Thr	Val Tyr Arg Glu	Trp Ala Pro Ala	Ala Gln Glu Ala
65	70	75	80
Glu Leu Ile Gly	Asp Phe Asn Asp	Trp Asn Gly Ala	Asn His Lys Met
	85	90	95
Glu Lys Asp Lys	Phe Gly Val Trp	Ser Ile Lys Ile	Asp His Val Lys
100		105	110
Gly Lys Pro Ala	Ile Pro His Asn	Ser Lys Val Lys	Phe Arg Phe Leu
115		120	125
His Gly Gly Val	Trp Val Asp Arg	Ile Pro Ala Leu	Ile Arg Tyr Ala
130		135	140
Thr Val Asp Ala	Ser Lys Phe Gly	Ala Pro Tyr Asp	Gly Val His Trp
145	150	155	160
Asp Pro Pro Ala	Ser Glu Arg Tyr	Thr Phe Lys His	Pro Arg Pro Ser
	165	170	175
Lys Pro Ala Ala	Pro Arg Ile Tyr	Glu Ala His Val	Gly Met Ser Gly
180		185	190
Glu Lys Pro Ala	Val Ser Thr Tyr	Arg Glu Phe Ala	Asp Asn Val Leu
195		200	205
Pro Arg Ile Arg	Ala Asn Asn Tyr	Asn Thr Val Gln	Leu Met Ala Val
210		215	220
Met Glu His Ser	Tyr Tyr Ala Ser	Phe Gly Tyr His	Val Thr Asn Phe
225	230	235	240
Phe Ala Val Ser	Ser Arg Ser Gly	Thr Pro Glu Asp	Leu Lys Tyr Leu
	245	250	255
Val Asp Lys Ala	His Ser Leu Gly	Leu Arg Val Leu	Met Asp Val Val
260		265	270
His Ser His Ala	Ser Asn Asn Val	Thr Asp Gly Leu	Asn Gly Tyr Asp
275		280	285
Val Gly Gln Ser	Thr Gln Glu Ser	Tyr Phe His Ala	Gly Asp Arg Gly
290		295	300
Tyr His Lys Leu	Trp Asp Ser Arg	Leu Phe Asn Tyr	Ala Asn Trp Glu

305		310		315		320									
Val	Leu	Arg	Phe	Leu	Leu	Ser	Asn	Leu	Arg	Tyr	Trp	Leu	Asp	Glu	Phe
				325					330					335	
Met	Phe	Asp	Gly	Phe	Arg	Phe	Asp	Gly	Val	Thr	Ser	Met	Leu	Tyr	His
			340					345					350		
His	His	Gly	Ile	Asn	Val	Gly	Phe	Thr	Gly	Asn	Tyr	Gln	Glu	Tyr	Phe
		355					360					365			
Ser	Leu	Asp	Thr	Ala	Val	Asp	Ala	Val	Val	Tyr	Met	Met	Leu	Ala	Asn
		370				375					380				
His	Leu	Met	His	Lys	Leu	Leu	Pro	Glu	Ala	Thr	Val	Val	Ala	Glu	Asp
385					390					395					400
Val	Ser	Gly	Met	Pro	Val	Leu	Cys	Arg	Pro	Val	Asp	Glu	Gly	Gly	Val
				405					410					415	
Gly	Phe	Asp	Tyr	Arg	Leu	Ala	Met	Ala	Ile	Pro	Asp	Arg	Trp	Ile	Asp
			420					425					430		
Tyr	Leu	Lys	Asn	Lys	Asp	Asp	Ser	Glu	Trp	Ser	Met	Gly	Glu	Ile	Ala
		435					440					445			
His	Thr	Leu	Thr	Asn	Arg	Arg	Tyr	Thr	Glu	Lys	Cys	Ile	Ala	Tyr	Ala
		450				455					460				
Glu	Ser	His	Asp	Gln	Ser	Ile	Val	Gly	Asp	Lys	Thr	Ile	Ala	Phe	Leu
465					470					475					480
Leu	Met	Asp	Lys	Glu	Met	Tyr	Thr	Gly	Met	Ser	Asp	Leu	Gln	Pro	Ala
			485						490					495	
Ser	Pro	Thr	Ile	Asp	Arg	Gly	Ile	Ala	Leu	Gln	Lys	Met	Ile	His	Phe
			500					505					510		
Ile	Thr	Met	Ala	Leu	Gly	Gly	Asp	Gly	Tyr	Leu	Asn	Phe	Met	Gly	Asn
		515					520					525			
Glu	Phe	Gly	His	Pro	Glu	Trp	Ile	Asp	Phe	Pro	Arg	Glu	Gly	Asn	Asn
		530				535					540				
Trp	Ser	Tyr	Asp	Lys	Cys	Arg	Arg	Gln	Trp	Ser	Leu	Val	Asp	Thr	Asp
545					550					555					560
His	Leu	Arg	Tyr	Lys	Tyr	Met	Asn	Ala	Phe	Asp	Gln	Ala	Met	Asn	Ala
				565					570					575	
Leu	Asp	Glu	Arg	Phe	Ser	Phe	Leu	Ser	Ser	Ser	Lys	Gln	Ile	Val	Ser
			580					585					590		
Asp	Met	Asn	Asp	Glu	Glu	Lys	Val	Ile	Val	Phe	Glu	Arg	Gly	Asp	Leu
		595					600					605			
Val	Phe	Val	Phe	Asn	Phe	His	Pro	Lys	Lys	Thr	Tyr	Glu	Gly	Tyr	Lys



610					615					620					
Val	Gly	Cys	Asp	Leu	Pro	Gly	Lys	Tyr	Arg	Val	Ala	Leu	Asp	Ser	Asp
625					630					635					640
Ala	Leu	Val	Phe	Gly	Gly	His	Gly	Arg	Val	Gly	His	Asp	Val	Asp	His
				645					650					655	
Phe	Thr	Ser	Pro	Glu	Gly	Val	Pro	Gly	Val	Pro	Glu	Thr	Asn	Phe	Asn
			660					665					670		
Asn	Arg	Pro	Asn	Ser	Phe	Lys	Val	Leu	Ser	Pro	Pro	Arg	Thr	Cys	Val
		675					680					685			
Ala	Tyr	Tyr	Arg	Val	Asp	Glu	Ala	Gly	Ala	Gly	Arg	Arg	Leu	His	Ala
	690					695					700				
Lys	Ala	Glu	Thr	Gly	Lys	Thr	Ser	Pro	Ala	Glu	Ser	Ile	Asp	Val	Lys
705						710					715				720
Ala	Ser	Arg	Ala	Ser	Ser	Lys	Glu	Asp	Lys	Glu	Ala	Thr	Ala	Gly	Gly
			725						730					735	
Lys	Lys	Gly	Trp	Lys	Phe	Ala	Arg	Gln	Pro	Ser	Asp	Gln	Asp	Thr	Lys
		740					745					750			

<210> 24  
 <211> 756  
 <212> PRT  
 <213> Oryza sativa

<400> 24

Thr	Met	Val	Thr	Val	Val	Glu	Glu	Val	Asp	His	Leu	Pro	Ile	Tyr	Asp
1				5					10					15	
Leu	Asp	Pro	Lys	Leu	Glu	Glu	Phe	Lys	Asp	His	Phe	Asn	Tyr	Arg	Ile
			20					25					30		
Lys	Arg	Tyr	Leu	Asp	Gln	Lys	Cys	Leu	Ile	Glu	Lys	His	Glu	Gly	Gly
		35					40					45			
Leu	Glu	Glu	Phe	Ser	Lys	Gly	Tyr	Leu	Lys	Phe	Gly	Ile	Asn	Thr	Val
	50					55					60				
Asp	Gly	Ala	Thr	Ile	Tyr	Arg	Glu	Trp	Ala	Pro	Ala	Ala	Gln	Glu	Ala
65					70					75					80
Gln	Leu	Ile	Gly	Glu	Phe	Asn	Asn	Trp	Asn	Gly	Ala	Lys	His	Lys	Met
			85						90					95	
Glu	Lys	Asp	Lys	Phe	Gly	Ile	Trp	Ser	Ile	Lys	Ile	Ser	His	Val	Asn
			100					105					110		
Gly	Lys	Pro	Ala	Ile	Pro	His	Asn	Ser	Lys	Val	Lys	Phe	Arg	Phe	Arg
		115					120					125			

His Gly Gly Gly Ala Trp Val Asp Arg Ile Pro Ala Trp Ile Arg Tyr  
 130 135 140  
 Ala Thr Phe Asp Ala Ser Lys Phe Gly Ala Pro Tyr Asp Gly Val His  
 145 150 155 160  
 Trp Asp Pro Pro Ala Cys Glu Arg Tyr Val Phe Lys His Pro Arg Pro  
 165 170 175  
 Pro Lys Pro Asp Ala Pro Arg Ile Tyr Glu Ala His Val Gly Met Ser  
 180 185 190  
 Gly Glu Glu Pro Glu Val Ser Thr Tyr Arg Glu Phe Ala Asp Asn Val  
 195 200 205  
 Leu Pro Arg Ile Arg Ala Asn Asn Tyr Asn Thr Val Gln Leu Met Ala  
 210 215 220  
 Ile Met Glu His Ser Tyr Tyr Ala Ser Phe Gly Tyr His Val Thr Asn  
 225 230 235 240  
 Phe Phe Ala Val Ser Ser Arg Ser Gly Thr Pro Glu Asp Leu Lys Tyr  
 245 250 255  
 Leu Val Asp Lys Ala His Ser Leu Gly Leu Arg Val Leu Met Asp Val  
 260 265 270  
 Val His Ser His Ala Ser Asn Asn Val Thr Asp Gly Leu Asn Gly Tyr  
 275 280 285  
 Asp Val Gly Gln Asn Thr His Glu Ser Tyr Phe His Thr Gly Asp Arg  
 290 295 300  
 Gly Tyr His Lys Leu Trp Asp Ser Arg Leu Phe Asn Tyr Ala Asn Trp  
 305 310 315 320  
 Glu Val Leu Arg Phe Leu Leu Ser Asn Leu Arg Tyr Trp Met Asp Glu  
 325 330 335  
 Phe Met Phe Asp Gly Phe Arg Phe Asp Gly Val Thr Ser Met Leu Tyr  
 340 345 350  
 His His His Gly Ile Asn Lys Gly Phe Thr Gly Asn Tyr Lys Glu Tyr  
 355 360 365  
 Phe Ser Leu Asp Thr Asp Val Asp Ala Ile Val Tyr Met Met Leu Ala  
 370 375 380  
 Asn His Leu Met His Lys Leu Leu Pro Glu Ala Thr Ile Val Ala Glu  
 385 390 395 400  
 Asp Val Ser Gly Met Pro Val Leu Cys Arg Pro Val Asp Glu Gly Gly  
 405 410 415  
 Val Gly Phe Asp Phe Arg Leu Ala Met Ala Ile Pro Asp Arg Trp Ile  
 420 425 430

Asp Tyr Leu Lys Asn Lys Glu Asp Arg Lys Trp Ser Met Ser Glu Ile  
 435 440 445  
 Val Gln Thr Leu Thr Asn Arg Arg Tyr Thr Glu Lys Cys Ile Ala Tyr  
 450 455 460  
 Ala Glu Ser His Asp Gln Ser Ile Val Gly Asp Lys Thr Ile Ala Phe  
 465 470 475 480  
 Leu Leu Met Asp Lys Glu Met Tyr Thr Gly Met Ser Asp Leu Gln Pro  
 485 490 495  
 Ala Ser Pro Thr Ile Asn Arg Gly Ile Ala Leu Gln Lys Met Ile His  
 500 505 510  
 Phe Ile Thr Met Ala Leu Gly Gly Asp Gly Tyr Leu Asn Phe Met Gly  
 515 520 525  
 Asn Glu Phe Gly His Pro Glu Trp Ile Asp Phe Pro Arg Glu Gly Asn  
 530 535 540  
 Asn Trp Ser Tyr Asp Lys Cys Arg Arg Gln Trp Ser Leu Val Asp Thr  
 545 550 555 560  
 Asp His Leu Arg Tyr Lys Tyr Met Asn Ala Phe Asp Gln Ala Met Asn  
 565 570 575  
 Ala Leu Glu Glu Glu Phe Ser Phe Leu Ser Ser Ser Lys Gln Ile Val  
 580 585 590  
 Ser Asp Met Asn Glu Lys Asp Lys Val Ile Val Phe Glu Arg Gly Asp  
 595 600 605  
 Leu Val Phe Val Phe Asn Phe His Pro Asn Lys Thr Tyr Lys Gly Tyr  
 610 615 620  
 Lys Val Gly Cys Asp Leu Pro Gly Lys Tyr Arg Val Ala Leu Asp Ser  
 625 630 635 640  
 Asp Ala Leu Val Phe Gly Gly His Gly Arg Val Gly His Asp Val Asp  
 645 650 655  
 His Phe Thr Ser Pro Glu Gly Met Pro Gly Val Pro Glu Thr Asn Phe  
 660 665 670  
 Asn Asn Arg Pro Asn Ser Phe Lys Val Leu Ser Pro Pro Arg Thr Cys  
 675 680 685  
 Val Ala Tyr Tyr Arg Val Asp Glu Asp Arg Glu Glu Leu Arg Arg Gly  
 690 695 700  
 Gly Ala Val Ala Ser Gly Lys Ile Val Thr Glu Tyr Ile Asp Val Glu  
 705 710 715 720  
 Ala Thr Ser Gly Glu Thr Ile Ser Gly Gly Trp Lys Gly Ser Glu Lys  
 725 730 735

Asp Asp Cys Gly Lys Lys Gly Met Lys Phe Val Phe Arg Ser Ser Asp  
 740 745 750

Glu Asp Cys Lys  
 755

<210> 25  
 <211> 762  
 <212> PRT  
 <213> Pisum sativum

<400> 25

Thr Met Pro Ser Val Glu Glu Asp Phe Glu Asn Ile Gly Ile Leu Asn  
 1 5 10 15

Val Asp Ser Ser Leu Glu Pro Phe Lys Asp His Phe Lys Tyr Arg Leu  
 20 25 30

Lys Arg Tyr Leu His Gln Lys Lys Leu Ile Glu Glu Tyr Glu Gly Gly  
 35 40 45

Leu Gln Glu Phe Ala Lys Gly Tyr Leu Lys Phe Gly Phe Asn Arg Glu  
 50 55 60

Glu Asp Gly Ile Ser Tyr Arg Glu Trp Ala Pro Ala Ala Gln Glu Ala  
 65 70 75 80

Gln Ile Ile Gly Asp Phe Asn Gly Trp Asn Gly Ser Asn Leu His Met  
 85 90 95

Glu Lys Asp Gln Phe Gly Val Trp Ser Ile Gln Ile Pro Asp Ala Asp  
 100 105 110

Gly Asn Pro Ala Ile Pro His Asn Ser Arg Val Lys Phe Arg Phe Lys  
 115 120 125

His Ser Asp Gly Val Trp Val Asp Arg Ile Pro Ala Trp Ile Lys Tyr  
 130 135 140

Ala Thr Val Asp Pro Thr Arg Phe Ala Ala Pro Tyr Asp Gly Val Tyr  
 145 150 155 160

Trp Asp Pro Pro Leu Ser Glu Arg Tyr Gln Phe Lys His Pro Arg Pro  
 165 170 175

Pro Lys Pro Lys Ala Pro Arg Ile Tyr Glu Ala His Val Gly Met Ser  
 180 185 190

Ser Ser Glu Pro Arg Ile Asn Ser Tyr Arg Glu Phe Ala Asp Asp Val  
 195 200 205

Leu Pro Arg Ile Arg Glu Asn Asn Tyr Asn Thr Val Gln Leu Met Ala  
 210 215 220

Val	Met	Glu	His	Ser	Tyr	Tyr	Ala	Ser	Phe	Trp	Tyr	His	Val	Thr	Lys	225	230	235	240
Pro	Phe	Phe	Ala	Val	Ser	Ser	Arg	Ser	Gly	Ser	Pro	Glu	Asp	Leu	Lys	245	250	255	
Tyr	Leu	Ile	Asp	Lys	Ala	His	Ser	Leu	Gly	Leu	Asn	Val	Leu	Met	Asp	260	265	270	
Val	Ile	His	Ser	His	Ala	Ser	Asn	Asn	Val	Thr	Asp	Gly	Leu	Asn	Gly	275	280	285	
Phe	Asp	Val	Gly	Gln	Ser	Ser	Gln	Gln	Ser	Tyr	Phe	His	Ala	Gly	Asp	290	295	300	
Arg	Gly	Tyr	His	Lys	Leu	Trp	Asp	Ser	Arg	Leu	Phe	Asn	Tyr	Ala	Asn	305	310	315	320
Trp	Lys	Ser	Ser	Phe	Leu	Leu	Ser	Asn	Leu	Arg	Trp	Trp	Leu	Glu	Glu	325	330	335	
Tyr	Lys	Phe	Asp	Gly	Phe	Arg	Phe	Asp	Gly	Val	Thr	Ser	Met	Leu	Tyr	340	345	350	
His	His	His	Gly	Ile	Asn	Met	Ala	Phe	Thr	Gly	Asp	Tyr	Asn	Glu	Tyr	355	360	365	
Phe	Ser	Glu	Glu	Thr	Asp	Val	Asp	Ala	Val	Val	Tyr	Leu	Met	Leu	Ala	370	375	380	
Asn	Ser	Leu	Val	His	Asp	Ile	Leu	Pro	Asp	Ala	Thr	Asp	Ile	Ala	Glu	385	390	395	400
Asp	Val	Ser	Gly	Met	Pro	Gly	Leu	Gly	Arg	Pro	Val	Ser	Glu	Val	Gly	405	410	415	
Ile	Gly	Phe	Asp	Tyr	Arg	Leu	Ala	Met	Ala	Ile	Pro	Asp	Lys	Trp	Ile	420	425	430	
Asp	Tyr	Leu	Lys	Asn	Lys	Lys	Asp	Ser	Glu	Trp	Ser	Met	Lys	Glu	Ile	435	440	445	
Ser	Leu	Asn	Leu	Thr	Asn	Arg	Arg	Tyr	Thr	Glu	Lys	Cys	Val	Ser	Tyr	450	455	460	
Ala	Glu	Ser	His	Asp	Gln	Ser	Ile	Val	Gly	Asp	Lys	Thr	Ile	Ala	Phe	465	470	475	480
Leu	Leu	Met	Asp	Glu	Glu	Met	Tyr	Ser	Ser	Met	Ser	Cys	Leu	Thr	Met	485	490	495	
Leu	Ser	Pro	Thr	Ile	Glu	Arg	Gly	Ile	Ser	Leu	His	Lys	Met	Ile	His	500	505	510	
Phe	Ile	Thr	Leu	Ala	Leu	Gly	Gly	Glu	Gly	Tyr	Leu	Asn	Phe	Met	Gly	515	520	525	

Asn Glu Phe Gly His Pro Glu Trp Ile Asp Phe Pro Arg Glu Gly Asn  
 530 535 540  
 Gly Trp Ser Tyr Glu Lys Cys Arg Leu Thr Gln Trp Asn Leu Val Asp  
 545 550 555 560  
 Thr Asn His Leu Arg Tyr Lys Phe Met Asn Ala Phe Asp Arg Ala Met  
 565 570 575  
 Asn Leu Leu Asp Asp Lys Phe Ser Ile Leu Ala Ser Thr Lys Gln Ile  
 580 585 590  
 Val Ser Ser Thr Asn Asn Glu Asp Lys Val Ile Val Phe Glu Arg Gly  
 595 600 605  
 Asp Leu Val Phe Val Phe Asn Phe His Pro Glu Asn Thr Tyr Glu Gly  
 610 615 620  
 Tyr Lys Val Gly Cys Asp Leu Pro Gly Lys Tyr Arg Val Ala Leu Asp  
 625 630 635 640  
 Ser Asp Ala Thr Glu Phe Gly Gly His Gly Arg Val Gly His Asp Ala  
 645 650 655  
 Asp Gln Phe Thr Ser Pro Glu Gly Ile Pro Gly Ile Pro Glu Thr Asn  
 660 665 670  
 Phe Asn Asn Arg Pro Asn Ser Phe Lys Val Leu Ser Pro Pro His Thr  
 675 680 685  
 Cys Val Val Tyr Tyr Arg Val Asp Glu Arg Gln Glu Glu Ser Asn Asn  
 690 695 700  
 Pro Asn Leu Gly Ser Val Glu Glu Thr Phe Ala Ala Ala Asp Thr Asp  
 705 710 715 720  
 Val Ala Arg Ile Pro Asp Val Ser Met Glu Ser Glu Asp Ser Asn Leu  
 725 730 735  
 Asp Arg Ile Glu Asp Asn Ser Glu Asp Ala Val Asp Ala Gly Ile Leu  
 740 745 750  
 Lys Val Glu Arg Glu Val Val Gly Asp Asn  
 755 760

<210> 26  
 <211> 984  
 <212> DNA  
 <213> Triticum aestivum

<400> 26  
 atatgtatga tttcatggct ctggatagac cttcaactcc tcgcattgat cgtggcatag 60  
 cattacataa aatgatcagg cttgtcacca tgggttttagg tggcgaaggc tatcttaact 120  
 tcatgggaaa tgagtttggg catcctgaat ggatagattt tccaagaggt ccgcaaactc 180

ttccaaccgg caaagttctc cctggaaata acaatagtta tgataaatgc cgccgtagat 240  
 ttgatcttgg agatgcagat tttcttagat atcgtggtat gcaagagtcc gaccaggcaa 300  
 tgcagcatct tgaggaaaaa tatgggttta tgacatctga gcaccagtat gtttcacgga 360  
 aacatgagga agataaggtg atcatcttcg aaagaggaga tttggtattc gttttcaact 420  
 tccaccggag caatagcttt tttgactacc gtgttggtg ttccaggcct gggaagtaca 480  
 aggtggcctt agactccgac gatgcactct ttggtggatt cagcaggcct gatcatgatg 540  
 tcgactactt cacaaccgaa catccgcatg acaacaggcc gcgctctttc tcggtgtaca 600  
 ctccgagcag aactgcggtc gtgtatgcc ttacagagta agaaccagca gctgcttggt 660  
 acaaggcaaa gagagaactc cagagagctc gtggatcgtg agcgaagcga cgggcaacgg 720  
 cgcgaggctg ctctaagcgc catgactggg aggggatcgt gcctcttccc cagatgccag 780  
 gaggagcaga tggataggta gcttggtggt gagcgctcga aagaaaatgg acgggcctgg 840  
 gtgtttgtcg tgctgcacta ccctcctcct atcttgacaca ttcccggttg tctttgtaca 900  
 tataactaat aattgcccggt gcgctcaacg tgaacatata aatattctaa taataggtta 960  
 tcccgtgaaa aaaaaaaaaa aaaa 984

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 <212> DNA  
 <213> *Triticum aestivum*

<400> 27  
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 tcatgggaaa tgagtttggg catcctgaat ggatagattt tccaagaggt ccgcaaactc 180  
 ttccaaccgg caaagttctc cctggaaata acaatagtta tgataaatgc cgccgtagat 240  
 ttgatcttgg agatgcagat tttcttagat atcgtggtat gcaagagttc gaccaggcaa 300  
 tgcagcatct tgaggaaaaa tatgggttta tgacatctga gcaccagtat gtttcacgga 360  
 aacatgagga agataaggtg atcatcttcg aaagaggaga tttggtattt gttttcaact 420  
 tccactggag caatagcttt tttgactacc gtgttggtg ttccaagcct gggaagtaca 480  
 aggtggcctt agactccgac gatgcactct ttggtggatt cagcaggcct gatcatgatg 540  
 tcgactactt cacaaccgaa catccgcatg acaataggcc gcgctctttc ttggtgtaca 600  
 ctccatagcag aactgcggtc gtgtatgcc ttacagagta agaaccagca gcggcttggt 660

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acaaggcaaa gagagaactc cagggagctc gtggattgtg agcgaagcga cgggcaactg      720
cgtgaggctg ctctaagcgc catgactggg aggggatcgt gcctcttccc ctgatgccag      780
gaggatcaga tggataggta gcttgttggt gagcgctcga aagaaaatgg acgggcctgg      840
gtgtttgtcg tgctgcactt aaccctcctc ctatgttgca cattcccggg tgtttttgta      900
catataacta ataattgccc gtgcgcttca acatgaacat ataaatattc tatataaaaa      960
aaaaaaaaaa aaaaaaa                                     977

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<210> 28
<211> 212
<212> PRT
<213> Triticum aestivum

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<400> 28

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Met Tyr Asp Phe Met Ala Leu Asp Arg Pro Ser Thr Pro Arg Ile Asp
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Arg Gly Ile Ala Leu His Lys Met Ile Arg Leu Val Thr Met Gly Leu
          20           25           30

Gly Gly Glu Gly Tyr Leu Asn Phe Met Gly Asn Glu Phe Gly His Pro
          35           40           45

Glu Trp Ile Asp Phe Pro Arg Gly Pro Gln Thr Leu Pro Thr Gly Lys
          50           55           60

Val Leu Pro Gly Asn Asn Asn Ser Tyr Asp Lys Cys Arg Arg Arg Phe
65           70           75           80

Asp Leu Gly Asp Ala Asp Phe Leu Arg Tyr Arg Gly Met Gln Glu Phe
          85           90           95

Asp Gln Ala Met Gln His Leu Glu Glu Lys Tyr Gly Phe Met Thr Ser
          100          105          110

Glu His Gln Tyr Val Ser Arg Lys His Glu Glu Asp Lys Val Ile Ile
          115          120          125

Phe Glu Arg Gly Asp Leu Val Phe Val Phe Asn Phe His Trp Ser Asn
          130          135          140

Ser Phe Phe Asp Tyr Arg Val Gly Cys Ser Lys Pro Gly Lys Tyr Lys
          145          150          155          160

Val Ala Leu Asp Ser Asp Asp Ala Leu Phe Gly Gly Phe Ser Arg Leu
          165          170          175

Asp His Asp Val Asp Tyr Phe Thr Thr Glu His Pro His Asp Asn Arg
          180          185          190

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Pro Arg Ser Phe Leu Val Tyr Thr Pro Ser Arg Thr Ala Val Val Tyr  
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Ala Leu Thr Glu  
 210

<210> 29  
 <211> 212  
 <212> PRT  
 <213> Zea mays

<400> 29

Met Tyr Asp Phe Met Ala Leu Asp Arg Pro Ser Thr Pro Thr Ile Asp  
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Arg Gly Ile Ala Leu His Lys Met Ile Arg Leu Ile Thr Met Gly Leu  
 20 25 30

Gly Gly Glu Gly Tyr Leu Asn Phe Met Gly Asn Glu Phe Gly His Pro  
 35 40 45

Glu Trp Ile Asp Phe Pro Arg Gly Pro Gln Arg Leu Pro Ser Gly Lys  
 50 55 60

Phe Ile Pro Gly Asn Asn Asn Ser Tyr Asp Lys Cys Arg Arg Arg Phe  
 65 70 75 80

Asp Leu Gly Asp Ala Asp Tyr Leu Arg Tyr His Gly Met Gln Glu Phe  
 85 90 95

Asp Gln Ala Met Gln His Leu Glu Gln Lys Tyr Glu Phe Met Thr Ser  
 100 105 110

Asp His Gln Tyr Ile Ser Arg Lys His Glu Glu Asp Lys Val Ile Val  
 115 120 125

Phe Glu Lys Gly Asp Leu Val Phe Val Phe Asn Phe His Cys Asn Asn  
 130 135 140

Ser Tyr Phe Asp Tyr Arg Ile Gly Cys Arg Lys Pro Gly Val Tyr Lys  
 145 150 155 160

Val Val Leu Asp Ser Asp Ala Gly Leu Phe Gly Gly Phe Ser Arg Ile  
 165 170 175

His His Ala Ala Glu His Phe Thr Ala Asp Cys Ser His Asp Asn Arg  
 180 185 190

Pro Tyr Ser Phe Ser Val Tyr Thr Pro Ser Arg Thr Cys Val Val Tyr  
 195 200 205

Ala Pro Val Glu  
 210

<210> 30  
 <211> 216  
 <212> PRT  
 <213> Zea mays

<400> 30

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Met Tyr Asp Phe Met Ala Leu Asp Arg Pro Ser Thr Pro Arg Ile Asp
1           5           10           15

Arg Gly Ile Ala Leu His Lys Met Ile Arg Leu Val Thr Met Gly Leu
          20           25           30

Gly Gly Glu Gly Tyr Leu Asn Phe Met Gly Asn Glu Phe Gly His Pro
      35           40           45

Glu Trp Ile Asp Phe Pro Arg Gly Pro Gln Ser Leu Pro Asn Gly Ser
      50           55           60

Val Ile Pro Gly Asn Asn Asn Ser Phe Asp Lys Cys Arg Arg Arg Phe
65           70           75           80

Asp Leu Gly Asp Ala Asp Tyr Leu Arg Tyr Arg Gly Met Gln Glu Phe
          85           90           95

Asp Gln Ala Met Gln His Leu Glu Gly Lys Tyr Glu Phe Met Thr Ser
          100          105          110

Asp His Ser Tyr Phe Ser Arg Lys His Glu Glu Asp Lys Val Ile Ile
          115          120          125

Phe Glu Arg Gly Asp Leu Val Phe Val Phe Asn Phe His Trp Ser Asn
          130          135          140

Ser Tyr Phe Asp Tyr Arg Val Gly Cys Phe Lys Pro Gly Lys Tyr Lys
145           150           155           160

Ile Val Leu Asp Ser Asp Asp Gly Leu Phe Gly Gly Phe Ser Arg Leu
          165          170          175

Asp His Asp Ala Glu Tyr Phe Thr Ala Asp Trp Pro His Asp Asn Arg
          180          185          190

Pro Cys Ser Phe Ser Val Tyr Ala Pro Ser Arg Thr Ala Val Val Tyr
          195          200          205

Ala Pro Ala Gly Ala Glu Asp Glu
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<210> 31  
 <211> 217  
 <212> DNA  
 <213> Zea mays

<400> 31

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 gctggaaagc ccatgcatct cgctgcgttg tcctctctat atatataaga ccttcaaggt 180  
 gtcaattaaa catagagttt tcgtttttcg ctttcct 217

<210> 32  
 <211> 686  
 <212> PRT  
 <213> Triticum aestivum

<400> 32

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 Asp Arg Pro Leu Pro Gly Ile Ile Ala Gly Gly Gly Gly Gly Lys Arg  
 20 25 30  
 Leu Ser Val Val Pro Ser Val Pro Phe Leu Leu Arg Trp Leu Trp Pro  
 35 40 45  
 Arg Lys Ala Lys Ser Lys Ser Phe Val Ser Val Thr Ala Arg Gly Asn  
 50 55 60  
 Lys Ile Ala Ala Thr Thr Gly Tyr Gly Ser Asp His Leu Pro Ile Tyr  
 65 70 75 80  
 Asp Leu Asp Leu Lys Leu Ala Glu Phe Lys Asp His Phe Asp Tyr Thr  
 85 90 95  
 Arg Asn Arg Tyr Ile Glu Gln Lys His Leu Ile Glu Lys His Glu Gly  
 100 105 110  
 Ser Leu Glu Glu Phe Ser Lys Gly Tyr Leu Lys Phe Gly Ile Asn Thr  
 115 120 125  
 Glu His Gly Ala Ser Val Tyr Arg Glu Trp Ala Pro Ala Ala Glu Glu  
 130 135 140  
 Ala Gln Leu Val Gly Asp Phe Asn Asn Trp Asn Gly Ser Gly His Lys  
 145 150 155 160  
 Met Ala Lys Asp Asn Phe Gly Val Trp Ser Ile Arg Ile Ser His Val  
 165 170 175  
 Asn Gly Lys Pro Ala Ile Pro His Asn Ser Lys Val Lys Phe Arg Phe  
 180 185 190  
 Arg His His Gly Val Trp Val Glu Gln Ile Pro Ala Trp Ile Arg Tyr  
 195 200 205  
 Ala Thr Val Thr Ala Ser Glu Ser Gly Ala Pro Tyr Asp Gly Leu His  
 210 215 220

Trp Asp Pro Pro Ser Ser Glu Arg Tyr Val Phe Asn His Pro Arg Pro  
 225 230 235 240  
 Pro Lys Pro Asp Val Pro Arg Ile Tyr Glu Ala His Val Gly Val Ser  
 245 250 255  
 Gly Gly Lys Leu Glu Ala Gly Thr Tyr Arg Glu Phe Pro Asp Asn Val  
 260 265 270  
 Leu Pro Cys Leu Arg Ala Thr Asn Tyr Asn Thr Val Gln Leu Met Gly  
 275 280 285  
 Ile Met Glu His Ser Asp Ser Ala Ser Phe Gly Tyr His Val Thr Asn  
 290 295 300  
 Phe Phe Ala Val Ser Ser Arg Ser Gly Thr Pro Glu Asp Leu Lys Tyr  
 305 310 315 320  
 Leu Ile Asp Lys Ala His Ser Leu Gly Leu Arg Val Leu Met Asp Val  
 325 330 335  
 Val His Ser His Ala Ser Asn Asn Val Ile Asp Gly Leu Asn Gly Tyr  
 340 345 350  
 Asp Val Gly Gln Ser Ala His Glu Ser Tyr Phe Tyr Thr Gly Asp Lys  
 355 360 365  
 Gly Tyr Asn Lys Met Trp Asn Gly Arg Met Phe Asn Tyr Ala Asn Trp  
 370 375 380  
 Glu Val Leu Arg Phe Leu Leu Ser Asn Leu Arg Tyr Trp Met Asp Glu  
 385 390 395 400  
 Phe Met Phe Asp Gly Phe Arg Phe Val Gly Val Thr Ser Met Leu Tyr  
 405 410 415  
 Asn His Asn Gly Ile Asn Met Ser Phe Asn Gly Asn Tyr Lys Asp Tyr  
 420 425 430  
 Ile Gly Leu Asp Thr Asn Val Asp Ala Phe Val Tyr Met Met Leu Ala  
 435 440 445  
 Asn His Leu Met His Lys Leu Phe Pro Glu Ala Ile Val Val Ala Val  
 450 455 460  
 Asp Val Ser Gly Met Pro Val Leu Cys Trp Pro Val Asp Glu Gly Gly  
 465 470 475 480  
 Leu Gly Phe Asp Tyr Arg Gln Ala Met Thr Ile Pro Asp Arg Trp Ile  
 485 490 495  
 Asp Tyr Leu Glu Asn Lys Gly Asp Gln Gln Trp Ser Met Ser Ser Val  
 500 505 510  
 Ile Ser Gln Thr Leu Thr Asn Arg Arg Tyr Pro Glu Lys Phe Ile Ala  
 515 520 525

Tyr Ala Glu Arg Gln Asn His Ser Ile Ile Gly Ser Lys Thr Met Ala  
530 535 540

Phe Leu Leu Met Glu Trp Glu Thr Tyr Ser Gly Met Ser Ala Met Asp  
545 550 555 560

Pro Asp Ser Pro Thr Ile Asp Arg Ala Ile Ala Leu Gln Lys Met Ile  
565 570 575

His Phe Ile Thr Met Ala Phe Gly Gly Asp Ser Tyr Leu Lys Phe Met  
580 585 590

Gly Asn Glu Tyr Met Asn Ala Phe Val Gln Ala Val Asp Thr Pro Ser  
595 600 605

Asp Lys Cys Ser Phe Leu Ser Ser Ser Asn Gln Thr Ala Ser His Met  
610 615 620

Asn Glu Glu Glu Lys Gly Ser Ala Leu Thr Lys Gly Tyr Thr His Leu  
625 630 635 640

Arg Ser Gly Cys Phe Asp Pro Ser Leu Pro Ser Thr Ser Ser Cys Ala  
645 650 655

Phe Leu Gly Pro Ser Asn Gln Ser Pro Phe Ser Lys Pro Phe Ile Gly  
660 665 670

Phe Pro Gly Cys Ile Phe Cys Cys Gly Leu Phe Lys Gly Glu  
675 680 685

<210> 33

<211> 830

<212> PRT

<213> Triticum aestivum

<400> 33

Met Leu Cys Leu Thr Ala Pro Ser Cys Ser Pro Ser Leu Pro Pro Arg  
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Pro Ser Arg Pro Ala Ala Asp Arg Pro Gly Pro Gly Ile Ser Gly Gly  
20 25 30

Gly Asn Val Arg Leu Ser Ala Val Pro Ala Pro Ser Ser Leu Arg Trp  
35 40 45

Ser Trp Pro Arg Lys Ala Lys Ser Lys Phe Ser Val Pro Val Ser Ala  
50 55 60

Pro Arg Asp Tyr Thr Met Ala Thr Ala Glu Asp Gly Val Gly Asp Leu  
65 70 75 80

Pro Ile Tyr Asp Leu Asp Pro Lys Phe Ala Gly Phe Lys Glu His Phe  
85 90 95

Ser Tyr Arg Met Lys Lys Tyr Leu Asp Gln Lys His Ser Ile Glu Lys

100								105				110			
His	Glu	Gly	Gly	Leu	Glu	Glu	Phe	Ser	Lys	Gly	Tyr	Leu	Lys	Phe	Gly
115								120				125			
Ile	Asn	Thr	Glu	Asn	Asp	Ala	Thr	Val	Tyr	Arg	Glu	Trp	Ala	Pro	Ala
130								135				140			
Ala	Met	Asp	Ala	Gln	Leu	Ile	Gly	Asp	Phe	Asn	Asn	Trp	Asn	Gly	Ser
145								150				155			
Gly	His	Arg	Met	Thr	Lys	Asp	Asn	Tyr	Gly	Val	Trp	Ser	Ile	Arg	Ile
165								170				175			
Ser	His	Val	Asn	Gly	Lys	Pro	Ala	Ile	Pro	His	Asn	Ser	Lys	Val	Lys
180								185				190			
Phe	Arg	Phe	His	Arg	Gly	Asp	Gly	Leu	Trp	Val	Asp	Arg	Val	Pro	Ala
195								200				205			
Trp	Ile	Arg	Tyr	Ala	Thr	Phe	Asp	Ala	Ser	Lys	Phe	Gly	Ala	Pro	Tyr
210								215				220			
Asp	Gly	Val	His	Trp	Asp	Pro	Pro	Ser	Gly	Glu	Arg	Tyr	Val	Phe	Lys
225								230				235			
His	Pro	Arg	Pro	Arg	Lys	Pro	Asp	Ala	Pro	Arg	Ile	Tyr	Glu	Ala	His
245								250				255			
Val	Gly	Met	Ser	Gly	Glu	Lys	Pro	Glu	Val	Ser	Thr	Tyr	Arg	Glu	Phe
260								265				270			
Ala	Asp	Asn	Val	Leu	Pro	Arg	Ile	Lys	Ala	Asn	Asn	Tyr	Asn	Thr	Val
275								280				285			
Gln	Leu	Met	Ala	Ile	Met	Glu	His	Ser	Tyr	Tyr	Ala	Ser	Phe	Gly	Tyr
290								295				300			
His	Val	Thr	Asn	Phe	Phe	Ala	Val	Ser	Ser	Arg	Ser	Gly	Thr	Pro	Glu
305								310				315			
Asp	Leu	Lys	Tyr	Leu	Val	Asp	Lys	Ala	His	Ser	Leu	Gly	Leu	Arg	Val
325								330				335			
Leu	Met	Asp	Val	Val	His	Ser	His	Ala	Ser	Ser	Asn	Lys	Thr	Asp	Gly
340								345				350			
Leu	Asn	Gly	Tyr	Asp	Val	Gly	Gln	Asn	Thr	Gln	Glu	Ser	Tyr	Phe	His
355								360				365			
Thr	Gly	Glu	Arg	Gly	Tyr	His	Lys	Leu	Trp	Asp	Ser	Arg	Leu	Phe	Asn
370								375				380			
Tyr	Ala	Asn	Trp	Glu	Val	Leu	Arg	Phe	Leu	Leu	Ser	Asn	Leu	Arg	Tyr
385								390				395			
Trp	Met	Asp	Glu	Phe	Met	Phe	Asp	Gly	Phe	Arg	Phe	Asp	Gly	Val	Thr

405							410							415		
Ser	Met	Leu	Tyr	Asn	His	His	Gly	Ile	Asn	Met	Ser	Phe	Ala	Gly	Ser	
			420				425						430			
Tyr	Lys	Glu	Tyr	Phe	Gly	Leu	Asp	Thr	Asp	Val	Asp	Ala	Val	Val	Tyr	
			435				440						445			
Leu	Met	Leu	Ala	Asn	His	Leu	Met	His	Lys	Leu	Leu	Pro	Glu	Ala	Thr	
			450				455						460			
Val	Val	Ala	Glu	Asp	Val	Ser	Gly	Met	Pro	Val	Leu	Cys	Arg	Ser	Val	
			465				470						475			
Asp	Glu	Gly	Gly	Val	Gly	Phe	Asp	Tyr	Arg	Leu	Ala	Met	Ala	Ile	Pro	
			485				490						495			
Asp	Arg	Trp	Ile	Asp	Tyr	Leu	Lys	Asn	Lys	Asp	Asp	Leu	Glu	Trp	Ser	
			500				505						510			
Met	Ser	Gly	Ile	Ala	His	Thr	Leu	Thr	Asn	Arg	Arg	Tyr	Thr	Glu	Lys	
			515				520						525			
Cys	Ile	Ala	Tyr	Ala	Glu	Ser	His	Asp	Gln	Ser	Ile	Val	Gly	Asp	Lys	
			530				535						540			
Thr	Met	Ala	Phe	Leu	Leu	Met	Asp	Lys	Glu	Met	Tyr	Thr	Gly	Met	Ser	
			545				550						555			
Asp	Leu	Gln	Pro	Ala	Ser	Pro	Thr	Ile	Asp	Arg	Gly	Ile	Ala	Leu	Gln	
			565				570						575			
Lys	Met	Ile	His	Phe	Ile	Thr	Met	Ala	Leu	Gly	Gly	Asp	Gly	Tyr	Leu	
			580				585						590			
Asn	Phe	Met	Gly	Asn	Glu	Phe	Gly	His	Pro	Glu	Trp	Ile	Asp	Phe	Pro	
			595				600						605			
Arg	Glu	Gly	Asn	Asn	Trp	Ser	Tyr	Asp	Lys	Cys	Arg	Arg	Gln	Trp	Ser	
			610				615						620			
Leu	Ala	Asp	Ile	Asp	His	Leu	Arg	Tyr	Lys	Tyr	Met	Asn	Ala	Phe	Asp	
			625				630						635			
Gln	Ala	Met	Asn	Ala	Leu	Asp	Asp	Lys	Phe	Ser	Phe	Leu	Ser	Ser	Ser	
			645				650						655			
Lys	Gln	Ile	Val	Ser	Asp	Met	Asn	Glu	Glu	Lys	Lys	Ile	Ile	Val	Phe	
			660				665						670			
Glu	Arg	Gly	Asp	Leu	Val	Phe	Val	Phe	Asn	Phe	His	Pro	Ser	Lys	Thr	
			675				680						685			
Tyr	Asp	Gly	Tyr	Lys	Val	Gly	Cys	Asp	Leu	Pro	Gly	Lys	Tyr	Lys	Val	
			690				695						700			
Ala	Leu	Asp	Ser	Asp	Ala	Leu	Met	Phe	Gly	Gly	His	Gly	Arg	Val	Ala	





Pro Thr Leu Lys Asp Phe Arg Ser His Leu Asp Tyr Arg Tyr Ser Glu  
 145 150 155 160  
 Tyr Arg Arg Ile Arg Ala Ala Ile Asp Gln His Glu Gly Gly Leu Glu  
 165 170 175  
 Ala Phe Ser Arg Gly Tyr Glu Lys Leu Gly Phe Thr Arg Ser Ala Glu  
 180 185 190  
 Gly Ile Thr Tyr Arg Glu Trp Ala Pro Gly Ala His Ser Ala Ala Leu  
 195 200 205  
 Val Gly Asp Phe Asn Asn Trp Asn Pro Asn Ala Asp Thr Met Thr Arg  
 210 215 220  
 Asp Asp Tyr Gly Val Trp Glu Ile Phe Leu Pro Asn Asn Ala Asp Gly  
 225 230 235 240  
 Ser Pro Ala Ile Pro His Gly Ser Arg Val Lys Ile Arg Met Asp Thr  
 245 250 255  
 Pro Ser Gly Val Lys Asp Ser Ile Ser Ala Trp Ile Lys Phe Ser Val  
 260 265 270  
 Gln Ala Pro Gly Glu Ile Pro Phe Asn Gly Ile Tyr Tyr Asp Pro Pro  
 275 280 285  
 Glu Glu Glu Lys Tyr Val Phe Gln His Pro Gln Pro Lys Arg Pro Glu  
 290 295 300  
 Ser Leu Arg Ile Tyr Glu Ser His Ile Gly Met Ser Ser Pro Glu Pro  
 305 310 315 320  
 Lys Ile Asn Ser Tyr Ala Asn Phe Arg Asp Glu Val Leu Pro Arg Ile  
 325 330 335  
 Lys Arg Leu Gly Tyr Asn Ala Val Gln Ile Met Ala Ile Gln Glu His  
 340 345 350  
 Ser Tyr Tyr Ala Ser Phe Gly Tyr His Val Thr Asn Phe Phe Ala Pro  
 355 360 365  
 Ser Ser Arg Phe Gly Thr Pro Glu Asp Leu Lys Ser Leu Ile Asp Arg  
 370 375 380  
 Ala His Glu Leu Gly Leu Ile Val Leu Met Asp Ile Val His Ser His  
 385 390 395 400  
 Ser Ser Asn Asn Thr Leu Asp Gly Leu Asn Gly Phe Asp Gly Thr Asp  
 405 410 415  
 Thr His Tyr Phe His Gly Gly Pro Arg Gly His His Trp Met Trp Asp  
 420 425 430  
 Ser Arg Leu Phe Asn Tyr Gly Ser Trp Glu Val Leu Arg Phe Leu Leu  
 435 440 445

Ser Asn Ala Arg Trp Trp Leu Glu Glu Tyr Lys Phe Asp Gly Phe Arg  
 450 455 460  
 Phe Asp Gly Val Thr Ser Met Met Tyr Thr His His Gly Leu Gln Met  
 465 470 475 480  
 Thr Phe Thr Gly Asn Tyr Gly Glu Tyr Phe Gly Phe Ala Thr Asp Val  
 485 490 495  
 Asp Ala Val Val Tyr Leu Met Leu Val Asn Asp Leu Ile His Gly Leu  
 500 505 510  
 His Pro Asp Ala Val Ser Ile Gly Glu Asp Val Ser Gly Met Pro Thr  
 515 520 525  
 Phe Cys Ile Pro Val Pro Asp Gly Gly Val Gly Leu Asp Tyr Arg Leu  
 530 535 540  
 His Met Ala Val Ala Asp Lys Trp Ile Glu Leu Leu Lys Gln Ser Asp  
 545 550 555 560  
 Glu Ser Trp Lys Met Gly Asp Ile Val His Thr Leu Thr Asn Arg Arg  
 565 570 575  
 Trp Leu Glu Lys Cys Val Thr Tyr Ala Glu Ser His Asp Gln Ala Leu  
 580 585 590  
 Val Gly Asp Lys Thr Ile Ala Phe Trp Leu Met Asp Lys Asp Met Tyr  
 595 600 605  
 Asp Phe Met Ala Leu Asp Arg Pro Ser Thr Pro Arg Ile Asp Arg Gly  
 610 615 620  
 Ile Ala Leu His Lys Met Ile Arg Leu Val Thr Met Gly Leu Gly Gly  
 625 630 635 640  
 Glu Gly Tyr Leu Asn Phe Met Gly Asn Glu Phe Gly His Pro Glu Trp  
 645 650 655  
 Ile Asp Phe Pro Arg Gly Pro Gln Thr Leu Pro Thr Gly Lys Val Leu  
 660 665 670  
 Pro Gly Asn Asn Asn Ser Tyr Asp Lys Cys Arg Arg Arg Phe Asp Leu  
 675 680 685  
 Gly Asp Ala Asp Phe Leu Arg Tyr His Gly Met Gln Glu Phe Asp Gln  
 690 695 700  
 Ala Met Gln His Leu Glu Glu Lys Tyr Gly Phe Met Thr Ser Glu His  
 705 710 715 720  
 Gln Tyr Val Ser Arg Lys His Glu Glu Asp Lys Val Ile Ile Phe Glu  
 725 730 735  
 Arg Gly Asp Leu Val Phe Val Phe Asn Phe His Trp Ser Asn Ser Phe  
 740 745 750

Phe Asp Tyr Arg Val Gly Cys Ser Arg Pro Gly Lys Tyr Lys Val Ala  
 755 760 765

Leu Asp Ser Asp Asp Ala Leu Phe Gly Gly Phe Ser Arg Leu Asp His  
 770 775 780

Asp Val Asp Tyr Phe Thr Thr Glu His Pro His Asp Asn Arg Pro Arg  
 785 790 795 800

Ser Phe Ser Val Tyr Thr Pro Ser Arg Thr Ala Val Val Tyr Ala Leu  
 805 810 815

Thr Glu

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 <211> 813  
 <212> DNA  
 <213> Escherichia coli

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 tgttccggct gtcagcgcag gggcgcccgg ttctttttgt caagaccgac ctgtccggtg 180  
 ccctgaatga actgcaggac gaggcagcgc ggctatcgtg gctggccacg acgggcgttc 240  
 cttgcgcagc tgtgtctgac gttgtcactg aagcgggaag ggactggctg ctattgggag 300  
 aagtgccggg gcaggatctc ctgtcatctc accttgctcc tgccgagaaa gtatccatca 360  
 tggctgatgc aatgcggcgg ctgcatacgc ttgatccggc tacctgccca ttcgaccacc 420  
 aagcgaaaca tcgcatcgag cgagcacgta ctcgatgga agccggtctt gtcgatcagg 480  
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 cgcgcatgcc cgacggcgag gatctcgtcg tgacctatgg cgatgcctgc ttgccgaata 600  
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 accgctatca ggacatagcg ttggctaccc gtgatattgc tgaagagctt ggccggcgaat 720  
 gggctgaccg cttcctcgtg ctttacggtg tcgcccctcc cgattcgcag cgcacgcct 780  
 tctatgcct tcttgacgag ttcttctgag etc 813

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 <212> PRT  
 <213> Triticum aestivum

<400> 36

Met Asp Lys Asp Met Tyr Asp  
1 5

<210> 37

<211> 40

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 37

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40

<210> 38

<211> 17

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 38

aaggatccgt cgacatc

17

<210> 39

<211> 20

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 39

atggacaagg atatgtatga

20

<210> 40

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 40

ttttcttcac aacgccctgg g

21

<210> 41

<211> 21

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 41

tgtttgggag atcttcctcc c

21

<210> 42

<211> 8

<212> PRT

<213> Triticum aestivum

<400> 42

Gly Val Trp Glu Ile Phe Leu Pro

1

5

<210> 43

<211> 10

<212> DNA

<213> Artificial Sequence

<220>

<223> Synthetic Oligonucleotide

<400> 43

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10

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<210> 54
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Leu Ser Ala Val Pro Ala Pro Xaa Xaa Leu Arg Trp Xaa Trp Pro Arg
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Lys Ala Lys Ser Lys Ser Ser Val Pro Val Xaa Ala Xaa Xaa Xaa Xaa
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Ile Xaa Ala Thr Xaa Xaa Xaa Gly Val Xaa Xaa Leu Pro Ile Tyr Asp
65           70           75           80

Leu Asp Pro Lys Leu Ala Xaa Phe Lys Xaa His Phe Asp Tyr Arg Xaa
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 130 135 140  
 Gln Leu Val Gly Asp Phe Asn Asn Trp Asn Gly Ser Gly His Xaa Met  
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 Thr Lys Asp Asn Phe Gly Val Trp Ser Ile Arg Leu Ser Asn Asn Ala  
 165 170 175  
 Asp Gly Ser Pro Ala Ile Pro His Gly Ser Lys Val Lys Phe Arg Phe  
 180 185 190  
 Asp Thr Pro Ser Gly Val Trp Val Asp Ser Ile Pro Ala Trp Ile Lys  
 195 200 205  
 Tyr Ala Val Gln Thr Ala Gly Glu Ile Gly Ala Pro Tyr Asp Gly Ile  
 210 215 220  
 His Tyr Asp Pro Pro Ser Glu Glu Lys Tyr Val Phe Lys His Pro Gln  
 225 230 235 240  
 Pro Lys Lys Pro Asp Ser Leu Arg Ile Tyr Glu Ala His Val Gly Met  
 245 250 255  
 Ser Gly Pro Glu Pro Glu Ile Asn Thr Tyr Ala Glu Phe Arg Asp Glu  
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 Val Leu Pro Arg Ile Lys Ala Leu Gly Tyr Asn Ala Val Gln Leu Met  
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 Phe Asp Val Gly Gln Gly Thr Asp Thr Ser Tyr Phe His Gly Gly Xaa  
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 Arg Gly His His Lys Met Trp Asp Ser Arg Leu Phe Asn Tyr Gly Asn  
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Glu Phe Lys Phe Asp Gly Phe Arg Phe Asp Gly Val Thr Ser Met Leu  
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 Tyr Thr His His Gly Leu Asn Met Ser Phe Thr Gly Ser Tyr Lys Glu  
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 Tyr Phe Gly Leu Ala Thr Asp Val Asp Ala Val Val Tyr Leu Met Leu  
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 450 455 460  
 Glu Asp Val Ser Gly Met Pro Val Leu Cys Xaa Pro Val Asp Glu Gly  
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 Gly Val Gly Phe Asp Tyr Arg Leu Ala Met Ala Val Ala Asp Lys Trp  
 485 490 495  
 Ile Asp Leu Leu Lys Asn Lys Asp Asp Xaa Trp Ser Met Gly Xaa Ile  
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 Val His Thr Leu Thr Asn Arg Arg Tyr Pro Glu Lys Cys Val Ala Tyr  
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 Ala Glu Ser His Asp Gln Ala Leu Val Gly Asp Lys Thr Ile Ala Phe  
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 595 600 605  
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 Val Ile Val Phe Glu Lys Gly Asp Leu Val Phe Val Phe Asn Phe His  
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Lys Tyr Lys Val Ala Leu Asp Ser Asp Ala Xaa Leu Phe Gly Gly Phe  
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 Asp Asn Arg Pro Xaa Ser Phe Ser Val Leu Thr Pro Ser Arg Thr Cys  
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